Responses to Comments Received on the DEIS

TABLE OF CONTENTS

INTRODUCTION

The following tables display substantive comments received during the Draft Environmental Impact Statement (DEIS) comment period. All letters and electronic messages were circulated among the Interdisciplinary Team (IDT) and Pike-San Isabel National Forest staff and line officers. Substantive comments were extracted and categorized and agency responses prepared. In general, substantive comments were not edited for grammar, spelling, style, or usage. Agency responses are included for each comment or set of comments. In some cases, comments led to factual corrections or supplemental analysis included in the Final EIS (FEIS).

Approximately 68 letters and 25 pieces of e-mail were received during the comment period. Nearly all of the letters were from Colorado, and most were from Woodland Park and nearby communities.

COMMENTS RELATED TO PURPOSE AND NEED/PROJECT BOUNDARIES

Comments Related to Purpose and Need and Project Boundaries		*Source*
Comment:	There needs to be an additional high priority Goal of reducing the catastrophic fire threat to human life and property.	Colorado State Forester
Response:	**The overriding purpose of the project is "to reduce the potential for adverse effects of wildfire and provide for firefighter and public safety (DEIS page 11)." Goals include the following: "reduce potential for loss of ecological and monetary values on public and private lands (DEIS page 12)."**	
Comment:	The Proposed Action and Purpose and Need for Action do not discuss restored forest conditions and the 10-year Comprehensive Strategy Implementation Plan and Goal 3- Fire adapted ecosystems are restored and maintained providing sustainable environmental, social, and economic benefits.	Colorado State Forester
Response:	**This project follows the comprehensive strategy as part of the National Fire Plan. It addresses primary goals of Hazardous Fuels Reduction and Restoration of Fire Adapted Ecosystems.**	
Comment:	The boundaries of treatment appear to be somewhat arbitrary as drawn. I would like to see more consideration of those properties that are being left out of this Project. The reasoning for the boundaries of treatment was stated as to "create safe zones stretching from one half mile to two miles from private property boundaries." While I agree that this is a great place to start the treatment process, it does not go far enough. The Presidential Healthy Forests Initiative, August 22, 2002, calls for much more than this small start. I'd like to see this initiative addressed in the EIS.	McClelland
	How and why were the current areas chosen over other areas? Does the District have any long-range plans for future treatment of other areas? Will input be solicited from the public about other areas to treat?	Blakesley
Response:	**There are many acres within and outside the Trout and West Creek watersheds ("analysis area") that need some form of treatment. The Trout-West treatment units were chosen because of the high values at risk (forests, homes, infrastructure, clean water) in an area with overly dense forests. Proximity to private land, forest health, road access, and operations feasibility were factored into the project boundaries. Acres not treated under this analysis could be considered in the future. The Forest Service welcomes public input about areas needing treatment. This project is consistent with the Healthy Forest Initiative.**	

COMMENTS RELATED TO PROJECT EFFECTIVENESS IN REDUCING CROWN FIRE HAZARD

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Comment:	No mention is made of the use of fuel breaks and their potential benefits in the landscape design.	Colorado State Forester
Response:	**The Trout-West treatment units were selected to reduce fuel continuity within and adjacent to the wildland-urban interface zone. Within these areas, ridges and roads could be selectively treated to increase their function as fuel breaks. Within the Proposed Action, the Rampart project area provides an example of treatments focused on roads and ridgetops that utilize a fuel break strategy.** **Alternatives B and D include treatment within one mile and one-half mile of private property, respectively; these alternatives represent a fuel break strategy. Alternatives B and D do not treat sufficient acreage to reduce Condition Class across the analysis area.**	
Comment:	Thinning the forest is like an airbag in a car - it softens the impact, but does nothing to stop the accident from occurring in the first place. According to the National Interagency Fire Center, 88% of all wildfires are human caused. In Colorado, the number is closer to 65%. And according to USFS and NIFC figures, the vast majority of human caused wildfires occur in roaded, easily accessible areas. It is my contention that any thinning effort must be coupled with increased fire education efforts, and again with increased enforcement. Thinning the project area may slow a wildfire, but it will not stop it from beginning - or necessarily protect the hundreds of thousands of roaded, easily accessible acres surrounding the project area. Enforcement must be stepped up, fines must be increased, and educational efforts must be funded.	Kochis
Response:	**The Trout-West Project is intended to treat the vegetation to reduce the potential for negative impacts if and when a wildfire occurs. Other efforts are underway to reduce risk of human-caused fires. All of the ideas offered in this comment have been or are being considered as part of the National Fire Plan and other efforts. The scope of the Trout-West EIS is limited to vegetation and road management.**	
Comment:	Untreated logging slash can adversely affect fire behavior for up to 30 years following the logging operations.	Sierra Club et al.

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Response:	**The Proposed Action and all action alternatives treat slash within thinned areas to less than six tons per acre following treatment. Page 65 of the DEIS notes:** **"The indirect effect [of the Proposed Action] is that wildfires would burn with lower fire intensities and would be easier to suppress. Resistance to control (suppression) would be less difficult and ground fires, as they occur, would be expected to burn at flame lengths 4 feet in height or less. Fuel ladders would not be common and the ability for a fire to spread through tree crowns would be significantly reduced. Fires within untreated areas would be easier to suppress once they moved into treated areas."** **The long-term result would be reduced fuels hazard. Slash would be treated through mechanical methods and burning, depending on the alternative. Larger material that does not contribute to fuel hazard would be retained for wildlife habitat and soil stabilization, as noted on page 24 of the DEIS.**	
Comment:	It is apparent from the experimentation on Mt. Trumbull that the types of forest restoration proposed in the Trout-West area are not effective in lowering the risk of "catastrophic crown fire." It is factors outside of understory thinning, reducing canopy closure, and fuels treatment that determine fire severity.	Sierra Club et al.
Response:	**The project is intended to reduce the canopy density / fuel hazard to reduce the probability of damaging crown fire. The Proposed Action would reduce total biomass and would break up the continuity of the crowns so that they are less prone to fires that spread between canopies. Fire behavior would be less likely to be extreme if canopy density and continuity is reduced. A 1999 study by Graham et al. (USDA/USDI 1999) noted that in general, thinnings reduce crown bulk densities and redistribute fuel loads, thus decreasing fire intensity if the surface fuels are treated.**	
Comment:	It is clear that more research will be necessary before any drastic measures are taken to reduce fire risk, especially by means of commercial thinning.	Sierra Club et al.
Response:	**The Proposed Action is designed to meet all planning guidelines and should not be characterized as drastic. The thinning prescription would be designed to promote development of sustainable vegetation conditions that resemble historic conditions, but persistent openings would not be created. Monitoring and adaptive management is built into the project so that future research can be used in implementation of the project.**	
Comment:	There is also evidence from a study conducted in the Klamath region of California that stand density reduction through harvest treatments may not result in lower fire intensity and severity. Weatherspoon and Skinner (1995) found higher levels of crown scorch in thinned (partial cut) stands than in adjacent un-thinned stands. Unmanaged stands had the least severe fire effects.	Sierra Club et al.

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Response:	**The Witherspoon study included the following findings:** • **Partial cuttings in the study area tended to remove large trees and leave small ones. The live fuel ladder component of fire-hazard in the uncut stand was not reduced in the partial-cut stand.** • **Fuel reduction following partial cutting may have been spotty. More intensive treatment of surface fuels might well have reduced fire damage further.** • **Partial cuttings that included successful follow-up fuel treatments suffered less fire damage than untreated stands. Partial cuttings without successful follow-up fuel treatments suffered more fire damage than untreated stands.** • **Heavy thinning from below and using whole-tree removal (or chipping and spreading the limbs and tops), followed by a prescribed understory burn to reduce natural fuels, will almost certainly reduce the wildfire hazard of the treated stand.** • **A landscape approach to fuels reduction is needed.** **The types of treatments proposed for the Trout-West Project would reduce canopy continuity and use whole tree yarding and other methods, including prescribed burning, to treat surface fuels following thinning.**	
Comment:	Stephens (1998) results indicated, for Sierran mixed conifer forests, the greatest fireline intensities were experienced after most silvicultural or salvage treatments that did not include slash and landscape fuels treatment. The lowest fire line intensities were a result of prescribed fire treatments by themselves or other "restoration" treatments always followed by prescribed burn or other slash and fuels treatments.	Sierra Club et al.
Response:	**All treatments within all action alternatives would be followed by prescribed burn or other slash and fuels treatment. The commercial aspect of the project is not part of the purpose and need – any sale of wood products would offset the cost of the operation but is not the goal of the operation. Thus, this project can be viewed as a "restoration" project.**	
Comment:	The claim, made throughout the Trout-West Project DEIS, that thinning will reduce the risk to homes and structures is also unsubstantiated. According to Forest Service researcher Jack Cohen, thinning forests of trees and other vegetation does little, if anything, to protect nearby homes and towns from losses during wildfire and may, in fact, be inefficient and ineffective.	Sierra Club et al.

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Response:	**In the Journal of Forestry, Cohen (2000) addressed the potential for a home to ignite given a wildfire within the wildland-urban interface. Cohen concluded that homes ignite via one of two processes: direct flame contact with the structure and lofted firebrands landing on a receptive fuel (i.e., house). The Structure Ignition Assessment Model (SIAM) developed by Cohen (1995) generally concurs that a flaming front at a distance of 40 meters or more from a structure does not deliver sufficient heat energy to ignite the exterior of a home. However, lofted firebrands are also a principle ignition factor. Homes can ignite during wildland fire without fire spreading near the structure. This occurs when firebrands are lofted downwind from fires. The firebrands subsequently collect on and ignite flammable home materials (such as roofs) and adjacent flammables (such as woodpiles, decking, or landscaped vegetation). Firebrands that result in ignitions can originate from wildland fires that are a distance of one kilometer or further. Torching and crown fires likely contributed to destruction of at least 70 homes in the Hayman Fire (USDA 2002).** **Cohen's research exclusively addresses home ignitibility. Not addressed in the research are some of the other issues and problems faced by resource managers, fire professionals, and residents when considering fire in the wildland-urban interface. The potential for loss of life, property value, and watershed health can occur even if homes have been made fire safe. When fire enters the wildland-urban interface, there is high probability that firefighting resources will be deployed and the public can be exposed to wildland-urban interface hazards, even if all homes have been made fire safe.** **Many homeowners would likely find it undesirable to live in an intensely or severely burned over forest even if their home has survived the passage of fire. Not only are aesthetic values decreased for most people, but the risk of flooding and landslides can put homes and lives at risk during subsequent precipitation events.** **Thinning will reduce the potential for adverse effects from crown fire across the watershed. Effects on property values go beyond the value of the home itself (see economic analysis). Effects on the watershed, as well as reductions in property values, are considered due to wildfire in adjacent areas.** **Alternative D was considered a way to treat the closest areas to private land. Too few acres would be treated in this strategy to reduce the potential for serious effects to the watershed.**	
Comment:	The preferred alternative continues the practice of fire suppression, does not analyze which areas within the project area that might be "allowed" to have wildfire. The document should not fail to analyze and disclose the full range of adverse effects on specific species and landscapes, and ecosystem structure, composition, functions and processes from continued fire exclusion and aggressive suppression. These adverse effects are particularly acute for fire-dependent species, communities, and systems.	Sierra Club et al.

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Response:	**The entire Trout-West project area is within two miles of private land. Fire suppression will likely continue to protect public and firefighter safety, protect private and public property, and reduce potential effects to the Denver municipal watershed. Fires would be more likely to be managed effectively under alternatives that reduce Condition Class, such as the Proposed Action and Alternative E. Prescribed burning could be used to maintain reduced fuel loadings in the future, after the initial thinning is accomplished.**	
Comment:	The document should not fail to disclose quantitative data on crown bulk density in sites proposed for treatments. The document should not inappropriately use canopy closure/crown closure as a surrogate for crown bulk density; the two concepts are qualitatively different, and the scientific literature only uses crown bulk density for assessing crown fire potential.	Sierra Club et al.
Response:	**The type of data needed to quantify bulk density was not available for this project. Professional judgment was used to characterize the potential for damaging wildfire, based on recent observations in the area (Hayman Fire, Hi Meadow, Buffalo Creek). A 1999 study by Graham et al. (USDA/USDI 1999) noted that in general, thinnings reduce crown bulk densities and redistribute fuel loads, thus decreasing fire intensity if the surface fuels are treated.**	
Comment:	Efforts to "prevent" high-intensity fires or facilitate aggressive suppression in project sites will either be unnecessary, since the fire risk is low, or ineffective, since the conditions that support fires tend to defy human ability to contain or control fire. The document should not fail to disclose quantitative data and analysis on the probability of fire occurrence in sites proposed for treatments.	Sierra Club et al.
Response:	**The probability of fire occurrence varies across the project area and was evaluated as part of the Fire Regime Condition Class analysis completed for the Trout-West watershed (Hann and Strohm 2002).** **This watershed has one of the highest fire occurrences on the Pike-San Isabel National Forests. Within the last 25 years, 526 lightning fire ignitions have been recorded in the project area. Human caused fires are on an upward trend. The entire watershed is at risk of loss of high-value resources, including homes and property, clean water, and wildlife habitat.** **The values within the watershed are so high that action is warranted at the watershed scale. Fires starting anywhere in the watershed have the potential to damage extensive acreage.** **Fuels treatments such as those proposed for the Trout-West Project would effectively reduce the potential for crown fire damage. As stated in the DEIS, some crown fire potential remains in all alternatives.**	
Comment:	The document should not fail to disclose that fire suppression is neither safe nor effective during extreme fire weather conditions. The document should not mislead the public into believing that suppression will be effective in proposed treatment sites under all conditions or circumstances.	Sierra Club et al.

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Response:	**Tables 8 and 9 in the DEIS display estimated acreage damaged by wildfire within a ten-year period. All alternatives are associated with some risk of wildfires escaping initial control. The treatments are expected to reduce the potential for wildfire damage by reducing density over thousands of acres of wildland-urban interface and surrounding watershed. As stated on page 65 of the DEIS, the Preferred Alternative will lessen potential for wide-scale stand replacing fire and improve public and firefighter safety.**	
Comment:	The document should not fail to disclose quantitative data on fuel loads differentiated by fuel size classes. Large fuels add total tonnage of fuels, but only fine fuels (three inches or less in diameter) affect rate of fire spread. The document needs to analyze and disclose the fuel loads according to various size classes (e.g. 1 hour, 10 hour, 100 hour, 1000 and 10,000 hour time lags).	Sierra Club et al.
Response:	**Fuels data by various size classes is discussed in the EIS and Appendix C (page C-20).**	
Comment:	The document should not fail to define what are hazardous fuels.	Sierra Club et al.
Response:	**The fuel hazard in the Trout-West area is related to overly dense, mature trees. The DEIS indicates that the fuel hazard in the Trout-West area is related to departure from the historic fire regime. "Much of the Trout-West area contains forests that burn hotter than historic forests," (page 11); "…mature forest stands that exceed 40 percent canopy closure are prone to extreme wildfire," (page 58).**	
Comment:	The document should not fail to disclose that in logging sites exposed to soil disturbance and increased sunlight, grasses, forbs, brush, and saplings will grow on managed sites, providing a new highly-flammable fuel bed. This will undermine the stated purpose of the project--to reduce fire/fuels hazards. The document should not fail to disclose how these new fuels will be managed, and how fuels treatment sites will be maintained over the long-term.	Sierra Club et al.
Response:	**Thinning will increase development of grasses, forbs, and understory trees and brush. The current concern is related to overly dense, continuous, mature tree canopy density. Thinning is intended to reduce crown density effectively for an estimated 20 years following treatment.** **Underburning and grazing are two methods that could effectively be used to reduce ground fire hazard. This decision is for the crown hazard reduction, future projects are likely to occur in the Trout-West area to maintain the reduced fuel hazard. These should not be considered connected actions, since they are premature to plan until the thinning is completed and the Forest-wide program for 2010 and beyond is evaluated. The project area would be safer and less expensive to underburn once crown density was reduced. Underburning would have several ecological benefits, including reduction of ground fuels.**	

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Comment:	The document should not fail to disclose the fuel models for the planning area and specific sites proposed for fuels treatments. The document should not fail to disclose the project's effect on fuel models on sites proposed for fuels treatments.	Sierra Club et al.
Response:	**Fuel models for the Trout-West watershed were considered as part of the Fire Regime Condition Class analysis. Effects on the Fire Regime Condition Class are included in the DEIS. Pre-and post-treatment inventory and monitoring of fuel models is recommended on page 29 of the DEIS.**	
Comment:	The document should not fail to disclose that untreated or ineffectively treated logging slash is highly flammable, and that fire hazard and risk will actually increase in the short-term following logging unless/until slash is effectively treated. The document should not fail to disclose the specific time frame and methods to effectively treat logging slash. The document needs to fully disclose how and when logging slash will be effectively treated. The document should not fail to disclose that proposed logging will actually increase hazardous fuel loads by generating logging slash, and leaving behind downed cull logs and stumps.	Sierra Club et al.
Response:	**The DEIS discloses the relative probability of damaging wildfire within each alternative. The DEIS acknowledges that action alternatives would not effectively reduce the probability of damaging wildfire until the project was completed, including surface fuels treatments following thinning. No alternatives would retain excess slash loadings for more than one or two years before it is completely treated. All alternatives include treatments (such as yarding of unmerchantable material) to reduce slash loading. The economic analysis includes costs for mechanical slash treatment and burning. A design feature was added to the FEIS to avoid leaving large continuous areas of untreated slash at any time during the life of the project.**	
Comment:	Fire danger can also be reduced by pruning the lower branches of some larger trees. This removes a fire ladder while still retaining the ecological values of the larger trees.	Sierra Club et al.
Response:	**Pruning can be effective in reducing fuel ladders but would not reduce canopy density. Proposed thinning prescriptions would retain larger and older trees to the degree that canopy goals may be met. Reducing canopy density is the main need for this project.**	
Comment:	Under the proposed action, slash would be piled and burned on 10,660 acres (p. 19). Some small diameter trees may become nothing but slash, because they have little or no commercial value. Enough slash could be generated to allow any ignition to burn with sufficient flame height to ignite the lower branches of residual trees, a situation that could surely start a hot-burning crown fire. As this is exactly the situation that this Project is purportedly designed to prevent, (p. 11) we recommend that the Trout-West FEIS adopt a different, and less potentially dangerous, choice for dealing with slash. If any piles are burned, they should be kept small, with burning confined to the winter months.	Colorado Wild et al.

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Response:	**Small diameter trees may need to be yarded out or otherwise mechanically treated prior to surface fuels treatment to avoid generating unmanageable fuel loads. A design feature has been added to disperse projects sufficiently to avoid large areas of untreated slash at any one time. Slash piles would be placed away from leave trees to avoid damage to residuals. A prescribed burn plan would be prepared and approved before ignition can occur (DEIS C-7). The Burn Plan would be refined to achieve site-specific objectives once thinning and yarding activities are complete.**	
Comment:	On pages 61-62, the DEIS mentions the use of *Fire Regime Condition Class and Associated Data for Fire and Fuels Planning: Methods and Applications*, by Wendel Hann and Diane Strohm (the "Hann-Strohm Report"). It appears that application of the model, as described in the Hann-Strohm Report, determined, to a considerable degree, the acres to be treated, after an adjustment for acreage affected by the Hayman Fire (see footnote 10, page 61).	Colorado Wild et al.
Response:	**The Hann-Strohm report was used to evaluate the effectiveness of the alternatives in increasing acreage in Condition Class 1, which is part of the Purpose and Need and a primary project goal.**	
Comment:	Note that FRPVT 4 has the highest acreage of proposed treatment, however it is also the vegetation type <u>least in need of treatment</u> because it occurs at the highest elevations of the Project area, and thus would have the least departure from the historic range of variability, if any.	Colorado Wild et al.
Response:	**Approximately 70% of the project area acreage is in FRPVT 4. This vegetation type includes a variety of conditions with an overall Condition Class 2 (indicating moderate departure from the historic condition). Proposed treatments are focused on the mixed conifer stands composed of Douglas-fir and ponderosa pine (stands with more spruce and lodgepole are not proposed for treatment).** **Many of the stands proposed for treatment within this type are clearly overly dense and prone to insect and disease problems along with fuel hazard. Some of the stands exhibit Condition Class 3 characteristics, meaning they are extremely different from historic conditions. Excessive burning, logging, and grazing in the late 1800s and early 1900s caused high soil disturbance, which was followed by exclusion of natural fire. These conditions resulted in the current vegetation pattern that is prone to damaging wildfires.** **The selection of the project area was based on the values at risk and condition of the forests in the Trout-West watershed. The Hann-Strohm report provided a yardstick for appropriate levels of treatment within the Trout-West watershed. Granted, from the point of view of pure ecological restoration across the Front Range, this type may be in less need of treatment than lower elevation types with a frequent fire regime; however, within the Trout-West watershed this type has the greatest number of acres to treat to reduce Condition Class to 1.**	

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Comment:	Dr. Aplet criticizes the authors for essentially fixing the historical range of variability onto a "single historical distribution of successional stages [that is considered] healthy and any departure from that condition [is considered] degraded." Historic stand conditions are known to have varied over time. Also, Dr. Aplet criticizes the use of poorly-justified numbers to calculate the departure from historic fire interval similarity. This departure forms the basis for determining how much acreage to treat in the Project area.	Colorado Wild, et al.
Response:	**Condition Class 1 includes plus or minus 33% variation around the natural (historical) estimate of central tendency. The use of this total range of 66% variation around the natural (historical) mean or median is supported by findings from Hann et al. (1997, 1998), Keane and Long (1998), Keane et al. (1997, 2002a & b), and Hessburg et al. (1999a).**	
Comment:	Dr. Aplet concludes that the Condition Class analysis "contains enough serious flaws that it cannot contribute to the scientific foundation for decision-making on the Trout West project." In the absence of such scientific support and, given the reality that "resources available for fuel treatment are not unlimited," these limited resources "should be spent where they will do the most good." In light of the "now abundant scientific evidence that [treating] the area immediately adjacent to homes . . . has the greatest effect on home ignitability" and that this "area that should be prioritized for treatment if we are to save homes from wildfire," Dr. Aplet concludes that Alternative D is the "only . . . alternative that can provide targeted protection for homes in the wildland-urban interface." This approach [the Condition Class analysis] suffers from a number of shortcomings. First, the mathematical gymnastics certainly produce numbers, but we have no reason to believe that these numbers are ecologically or physically meaningful. Hann has created indices out of indices out of indices. Meaningful units of measure are lost early in the process, and there is no reason to believe that what results is useful information. Second, these methods are not part of the toolkit of traditional fire science. They have never been peer-reviewed nor do they appear to have been applied anywhere else. Third, the fire interval-severity similarity relies on estimates of current fire probability (and replacement fire probability) that are not transparent and appear to have been simply made up by the authors. Similarly, the estimates of historical fire regime appear to be based on local fire scar data, but they do not appear to have adhered to any of the rigorous methodological procedures for converting fire scars to estimates of fire return interval that are a standard part of the fire literature.	Colorado Wild et al.

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Response:	**The Hann-Strohm report has been submitted for publication in a Forest Service Research General Technical Report and has been through peer review. Some of the written interpretations were revised based on peer review but the methods, analysis process, and general conclusions have not changed. The Forest Service would not agree that the report is "seriously flawed." The methods come from established procedures for determining similarity or dissimilarity (departure) indexes (Clements 1934; Mueller-Dombois and Ellenberg 1975; Kershaw 1973). As to complexity, the methods used for the fire regime condition class were selected because they were the simplest of the similarity and ratio methods, such that field managers could be trained and the calculations could be conducted in the field. In addition, these types of methods, classification of disturbance regimes, and comparison to natural (historical) references as a baseline for resource and fire condition class measures are in common use (Caprio 2000; Heinselman 1981; Hann et al. 1994, 1997, 1998, 2003; Hardy et al. 2001; Hessberg et al. 1999b; Lee et al. 1997, 1998; Reiman et al. 2000; Samson 1919; Schmidt et al. 2002; Wisdom et al. 2000).** **The purpose and need of the Trout-West Project does not specify "targeted protection for homes." The purpose and need as stated on page 11 of the DEIS is "to reduce the potential adverse effects of wildfire and provide for firefighter and public safety." This need includes, but goes beyond, protection of homes.** **In relation to Alternative D, page 67 of the DEIS states the following: "The probability of damaging wildfire would be reduced in the area adjacent to private land but the analysis area as a whole would not be significantly affected."**	
Comment:	The "Acres of Wildfire Predicted by Alternative" (Table 9, p. 64) shows that almost as much wildfire is predicted under alternative D as is predicted under the no action alternative. Similarly, page 133 states that the fuels analysis assumes there is a 100% chance of three large fires (of approximately 10,500 acres each) occurring in the watershed outside the Project area within a decade under the no action alternative, and applies this same assumption to alternative D (pp. 133, 137). This is wrong, as the latter alternative would treat 6,750 acres, all but 600 via heavy thinning. *Id.* at p. 33. This is about one-third of the acreage treated under the proposed action (p. 19), so there must be <u>some</u> reduction in susceptibility to catastrophic fire in the larger watershed area under alternative D when compared to the no action alternative.	Colorado Wild et al.
Response:	**The IDT fully considered Alternative D. The acreage treated in Alternative D would reduce potential for damaging wildfire within treated areas. It is less likely to reduce potential for damaging wildfires outside treated areas. If Alternative D were considered 30% as effective as the Proposed Action outside the project area, it would have effects closer to Alternative B. Neither Alternative B nor D would reduce Condition Class across the analysis area.**	

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Comment:	It is wrong to assume that there is a 100% chance of large stand-replacing fire, even in the no action alternative. First, considerable acreage in the area in question has already been burned in stand-replacing fires; this acreage will not again experience such a fire for many years. Second, the chance of such fire on the remaining acreage is probably fairly high, but not anywhere near 100%. The Forest Service must re-think its assumptions here.	Colorado Wild et al.
Response:	**The planning team considered the types of fires that have occurred within the last several years and predicted that under No Action, damaging wildfires are certain to occur. The team used No Action as a baseline from which other alternatives could be compared. The estimates in the EIS should not be considered absolutes. The analysis compares the relative costs, risks and benefits related to all alternatives.**	
Comment:	The DEIS cites Omi and Pollet: "fuels treatment reduced fire damage on study areas in four wildfires including the Tyee fire." Yet, the DEIS neglects to explain that among these fuels treatments was included a prescribed fire alone treatment and further, that the others were all "precommercial thinnings" (Pollet, J. pers. com.). Precommercial thinning is very different from what has been prescribed for the Trout West Restoration because not only are the fundamental assumptions different but also, the economic incentive is not immediately present. In simpler terms, the deal is not sweetened for a contractor with valuable trees.	Sierra Club et al.
Response:	**The Trout-West Project is not intended to be a commercial project. Any economic return would be a by-product of the operation. All action alternatives would cost more than they would produce in timber receipts. This comment does not clarify what "fundamental assumptions" differ between the proposed fuel treatments and the Omi and Pollet study.**	
Comment:	The proposed thinning would be too heavy, causing a number of environmental problems that could be avoided or reduced with less intense treatment, which would still sufficiently reduce the fire danger. We believe that Alternative D remains the most effective alternative to provide protection for homes and communities while minimizing adverse impacts. There must be a balance between reducing the potential for catastrophic fire and retaining inherent forest values.	Colorado Wild et al.
Response:	**The Proposed Action attempts to balance the need for action and retention of inherent forest values. Canopy retention guidelines in the DEIS are based on Dr. Kaufmann's work, balanced with social and operational considerations. Heavy thinning areas are intended to average 15 –25% canopy cover, but overall the project areas would retain greater than 25% canopy cover because of the amount of untreated areas and design features for visuals, soils, and wildlife that result in higher retention levels.**	

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Comment:	Neither the main body of the DEIS nor Appendix C include a discussion concerning what level of residual (post-treatment) canopy closure is sufficient to provide a needed or desired level of protection from catastrophic fire. Rather, p. 13 states: The average canopy figure comes from work by Kaufmann et al., and is considered the average necessary to adequately reduce the probability of damaging wildfires. Notably, however, the DEIS fails to identify which of Kaufmann's many works contains this information.	Colorado Wild et al.
Response:	**The residual (post treatment) canopy closure was based on the need for canopy cover to remain below 30% (Kaufmann, personal communication, May 14, 2002) for at least 20 years (DEIS page 20). Based on Forest Vegetation Simulator (FVS) runs, canopy covers will increase at a rate of 3 to 5% per decade; therefore the 15-25% canopy cover would retain open stand conditions for approximately 20 years.** **The analysis considered Dr. Kaufmann's descriptions of the historic landscape as a guideline for average density across the stands proposed for treatment. Fire Regime Condition Class analysis assumed that "treatment" and "maintenance" treatments would be designed to mimic Kaufmann's historic landscape (Hann, personal communication, 2003). Prescriptions that help restore historic vegetation conditions would reduce Condition Class.**	
Comment:	Striving for a treatment that lasts only 20 years in my view is far too limited in intensity. Since natural disturbance by fire had more significant effects, shouldn't the treatments be targeted to mimic those effects, thereby lasting longer than 20 years? Otherwise, we are absolutely assured that at 20 years or so we will be right back where we started. I suspect also that an economic analysis would show much higher cost of having to reenter the forest after 20 years than being more aggressive at the start.	Dr. Merrill Kaufmann
Response:	**The Preferred Alternative is intended to balance the need for fuels reduction and public acceptance of the project. During scoping and the DEIS comment period, many people expressed concern that the project might be too aggressive in returning the area to its historic condition. Residents and visitors enjoy the forested terrain and scenic qualities. The Proposed Action reflects the Forest Service desire to accomplish the project. The Forest Service perceives that a push for more aggressive action would result in opposition to the project that could interfere with implementation. More trees may be removed in the future as needed to sustain the effectiveness of the project.**	
Comment:	In the DEIS, you state that there is a 100 percent likelihood of a stand replacement wildfire in the next 10 years, and in 30 years the entire watershed will have burned. We agree; in fact our concern is that this may take place next year! If we have any reservations about this project, it is that it may not be removing material quickly enough. We are pleased that it is a ten-year program with some built in flexibility to adapt to changing situations. Hopefully, near the end of the ten-year period it will become ongoing so these dangerous fuel build-ups don't reoccur.	Rampart Range Motorcycle Mgt. Committee

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Response:	**The project is expected to retain its effectiveness for 20 years after full implementation. The DEIS discloses that after that, maintenance treatments would be needed. The implementation period is long enough to allow the agency to secure funding and implement an Adaptive Management Plan.**	
Comment:	What will happen if slash piles cannot be burned due to conditions? Can they be disposed of some other way?	Blakesley
Response:	**Removal of slash through mechanical means is feasible. Alternative A would not burn any slash but would remove it all through mechanical means. Pile and broadcast burning are included in the Preferred Alternative, but much of the work would still be done mechanically. Weather would be a factor in the timing of the burning. Piles have a generally larger burning window than broadcast burning. The intent of the project is to reduce fire hazard. Land managers for the Pike and San Isabel National Forests are committed to completing surface fuels treatment in a timely manner.**	
Comment:	It is unclear whether the Hayman Fire was factored into the Fuels Condition Class Analysis.	EPA
Response:	**The Hayman Fire was factored into the Condition Class Analysis (see footnote on page 61 of the DEIS).**	
Comment:	Please discuss how fuels consumed by Hayman might affect analysis area fire potential.	EPA
Response:	**The DEIS considers the post-Hayman crown fire hazard situation. The analysis was updated after the Hayman Fire. The Hayman Fire affected West Creek watershed more than Trout Creek watershed. The fire reduced the acreage in Condition Class 2 and 3, and reduced the overall Condition Class for one of the vegetation types in the area. It did not reduce the Condition Class of the Trout-West analysis area as a whole. The rest of the watershed is still predicted to burn within a 30-year period under No Action.**	
Comment:	Please consider grazing to supplement thinning and reduce fire hazard. Grazing would reduce costs, provide revenue, aid ranchers, and eliminate need for controlled burns.	Warren
Response:	**Grazing is an acceptable fuels reduction technique for grass, shrubs, and small trees. The mature, overly dense stands in the Trout-West area would not be effectively treated by grazing. Grazing would reduce future re-growth. Grazing occurs within the project area as part of existing allotment management plans (see Range section of the EIS).**	
Comment:	Please describe the basis for your claim that project effectiveness will last 20 years. Would this estimate apply to drought and wetter years?	EPA
Response:	**The basis for the 20-year claim is from vegetation modeling runs that considered an average year's re-growth of trees following thinning. Drought years would extend the period; wetter years would reduce the period. A prescription will be prepared for each stand considering potential re-growth on that site within an average 20-year period.**	

Comments Related to Project Effectiveness in Reducing Crown Fire Hazard		*Source*
Comment:	The document should not fail to disclose quantitative data on historic fuel loads. This is necessary to determine whether current fuel loads are outside their historic range of variability (HRV). If the current fuel loads are within the HRV, then proposed management activities to "restore" sites are not valid.	Sierra Club et al.
Response:	**The work of Dr. Merrill Kaufmann and Wendell Hann, documented in the DEIS, describes the historic fire regime and how it has changed with fire suppression. The Affected Environment estimates the number of acres that no longer approximate the historic condition (DEIS pages 58-75) and would benefit from treatment.**	
Comment:	Please describe the effect that adjacent analysis polygons within treatment areas will have on risk of ignition and perpetuation of fire on each other, and whether condition classes are affected by landscape attributes.	EPA
Response:	**The design of the Proposed Action includes both treated and untreated areas. The idea is to reduce canopy over enough of the project area to reduce the overall Condition Class. Landscape attributes such as elevation and topography were factored into the Condition Class analysis. Density and species composition are other important factors. All of these affect how fires spread.** **The project areas were initially selected based on values at risk, stand conditions and operational feasibility. Wildfires may start in untreated areas within the watershed, but potential fire spread would be reduced once the fire entered a large treated area. Fires starting within treated areas would be less likely to spread to untreated areas.**	

COMMENTS RELATED TO VEGETATION CONDITION AND PATHOGENS

Comments Related to Vegetation Condition and Pathogens		*Source*
Comment:	Please describe what is meant by "vary stand level prescriptions to mimic natural variability." What will this look like on the ground? Please include a simple, conceptual diagram that illustrates this strategy. Historically, in the higher elevation stands [proposed for treatment], density increases with elevation and closed canopies where present.	EPA

Comments Related to Vegetation Condition and Pathogens		*Source*
Response:	**The prescriptions allows for spacing to vary so that distribution is clumpy rather than consistent, so that to the extent possible, the treatment mimics the variability produced from a mixed frequency fire regime. Variation by elevation could be a strategy for site-specific prescriptions, but the same general guidelines would apply to all project areas. Other variations would be by aspect, presence of certain wildlife elements (snags, Abert's squirrel feeding trees), and presence or risk of pathogens (bark beetles, mistletoe). These elements vary across the landscape and the prescriptions would accommodate that variation, with averages tending toward descriptions of Kaufmann's historic landscape.** **The following diagrams depict the existing forest density and structure (approaching 70% canopy cover) and the post-thinning density and structure (averaging about 20% canopy, any given acre ranging between 10 and 40%).** **Before** **After** 	
Comment:	Vegetative Conditions discusses historic forest conditions but the forest openings are not a prime factor in evaluation; only the thinnings seem to be the historical factor for evaluation.	Colorado State Forester Dr. Merrill Kaufmann
Response:	**The primary purpose and need for the Trout-West Fuels Reduction Project is to reduce the potential adverse effects of wildfire and provide for firefighter and public safety. Thinnings as described in the DEIS are intended to meet this need. Persistent forest openings, while part of the historic landscape, are not required to meet this need. The prescription for the Proposed Action integrates research by Dr. Kaufmann and moves the area toward the desired condition. The DEIS stated that Alternative E best meets the project goal of promoting sustainable, diverse forest conditions that resemble historic conditions. The rationale for the selected alternative is in the Record of Decision.**	
Comment:	Affected Environment- is a good analysis, but it does not discuss or model the effect of creating openings, such as Alternative E and the research work of Dr. Kaufman at Cheesman Reservoir. The planning team should have considered more involvement by Dr. Kaufman and better use his research on historical forest condition at Cheesman Reservoir in the design of the Preferred Alternative.	Colorado State Forester

Comments Related to Vegetation Condition and Pathogens		*Source*
Response:	**The thinnings described in the Preferred Alternative, as well as the other action alternatives, are based on Dr. Kaufmann's research. In the comparison of alternatives, post-treatment vegetative structure was compared to the historic vegetative structure based on Dr. Kaufmann's work. Alternative E was developed to more accurately reflect the historic condition and persistent openings were an integral part of the alternative. While both the Preferred Alternative and Alternative E satisfactorily meet the purpose and need, there were other factors, such as potential impacts to wildlife and social considerations, that led to the identification of the Preferred Alternative.**	
Comment:	The case for an alternative that more closely approaches restoring the forest to a more historical condition is made in Tables 10, 11 and in the description of affected environment page 68. An alternative which more closely approaches the historical forest conditions would seem to be more sustainable over a long period of time and could be designed somewhat differently than Alternative E and/or the preferred alternative. The statement that one-third of the created openings would be "actively" regenerated is questioned as the intent is to create more permanent openings, as was represented in the historical landscape. Alternative E the openings created to be closer to historic condition should be managed to maintain those opening and not regenerated or for growing old growth.	Colorado State Forester
Response:	**Table 11 (on page 69 of the DEIS) displays the historic condition (as well as the current condition) based on Dr. Kaufmann's work. Dr. Kaufmann's work indicates that 20% of the landscape was in persistent openings (grass/forb stage) and 10% in the tall shrub/seedling stage. Since both stages are essentially absent from the current landscape, 30% of the landscape would require canopy reductions to below 10%, 2/3 of which would be managed as persistent openings to meet the 20% found historically and 1/3 regenerated to recruit the 10% needed for the tall shrub/seedling stage.**	
Comment:	The proposed action is consistent with the ecological approach needed for Southwestern ponderosa pine, but the proposed action is inconsistent with the ecological approach needed for the Front Range. The term "thinning from below" is exactly the term used for treatment where historical fires were frequent and low severity (i.e. the Southwest). That prescription is inappropriate for the Front Range.	Dr. Merrill Kaufmann
Response:	**The section on thinning under proposed action has been revised in the FEIS to better reflect the intended result, which is appropriate for a mixed severity fire regime. Canopy cover range will be changed to provide greater diversity. Average canopy cover would still be 15 to 25% but would range from 10 to 40% on any given acre.**	

Comments Related to Vegetation Condition and Pathogens		*Source*
Comment:	Historical fires were mixed in severity, meaning there were substantial stand-replacing components along with surface fire components within each fire. Mixed severity fires, which occurred at Cheesman roughly every 50 years, along with variable spatial and often delayed temporal patterns of tree recruitment into openings created by fire, resulted in a very complex historical landscape, with few areas exceeding 30% canopy cover and many areas having less than 10% canopy cover, and some with none. I'm not terribly concerned if the overall landscape canopy cover would come out to be 15 or maybe 20%, but I am very concerned that the landscape would have been kept too homogeneous spatially, with too few areas having canopy cover under 10%.	Dr. Merrill Kaufmann
Response:	**Alternative E was developed to best approximate historic conditions defined by Dr. Kaufmann. The Record of Decision will provide rationale for the selection of the preferred alternative.**	
Comment:	The Trout West Project will intervene in natural disturbance processes that are vital to ecosystem sustainability.	Sierra Club et al.
Response:	**The Trout-West DEIS acknowledges that natural disturbance processes have been altered primarily through the suppression of fire. As a result, natural disturbances such as fire and forest pathogen activities have changed in character and resulted in disturbances that are far more destructive than historic ones. One of the Trout-West Project goals is to move the landscape closer to its historic condition to maintain ecosystem sustainability.**	
Comment:	There is no documentation whatsoever that forest health conditions in the sale area are anything of concern.	Sierra Club et al.
Response:	**The DEIS described how fire suppression has dramatically changed the historic vegetative condition (DEIS page 11). The change in vegetative condition has changed the fire regime from a mixed severity to a high severity fire regime, resulting in fires like 2002's Hayman fire. The DEIS also shows how an increase in forest density and change in species composition favors mountain pine beetle and Douglas-fir tussock moth outbreaks. In 1993, Colorado had its largest outbreak of Douglas-fir tussock moth just north of the Trout-West project area. Documentation in the DEIS has also shown that mountain pine beetle outbreaks are occurring near the project area and that Trout-West is susceptible to mountain pine beetle outbreaks (DEIS pages 75-79).**	
Comment:	The document should not fail to disclose the beneficial effects on species, stands, landscapes, and ecosystems from prescribed and wildland fires.	Sierra Club et al.
Response:	**The DEIS and Appendix C describe the historic role that fire played in shaping the Trout-West ecosystem and the beneficial effects of fire (DEIS pages 58-75). Prescribed burning has been built into all action alternatives (except A) and is part of the Preferred Alternative because of its beneficial effects. The general effects of prescribed fire on wildlife are discussed in the Wildlife Report in the analysis file, which is available electronically at the following web address: http://www.fs.fed.us/r2/psicc/spl/twest.htm.**	

Comments Related to Vegetation Condition and Pathogens		*Source*
Comment:	Heavy thinning, means approximately 20 to 50 percent of the existing co-dominant tree overstory would be removed to meet canopy reduction goals. Removing this much overstory is not "thinning from below," as stated on p. 20, since much of the overstory itself, not just the smaller trees underneath it, is proposed for removal. The heavy thinning proposed is inappropriate for north-facing slopes, where fires were less frequent, and stands naturally became more dense at times than on south and west aspects.	Colorado Wild et al.
Response:	**The thinning section has been rewritten to more accurately reflect how the stands are to be treated:** **"The proposed silvicultural treatment is low thinning, removing the suppressed and intermediate trees first, followed by the co-dominant and dominant trees as necessary to meet the desired canopy cover. The purpose is to reduce fire intensity by disrupting canopy continuity, removing fuel ladders, and creating landscape diversity. Uniform tree spacing, while disrupting canopy continuity, would fail to provide the desired spatial diversity within the stands and across the landscape.** **Trees are to be thinned in such a fashion as to create clumps or cohorts of trees intermingled with small irregular openings or areas of lower tree density up to ¼ acre in size. For example, a clump of 3-10 trees could be left that are 3-20 feet from their nearest neighbor, while adjacent to this clump is an opening or area of low tree density, containing 0-3 trees. Pockets of older, platy-barked trees would be targeted as leave clumps, and areas of younger trees or pockets of dwarf mistletoe infected trees would be targeted for removal to create openings. The above is only an example and actual leave groups and openings would be dictated by stand structure and characteristics. Overall, canopy cover may differ substantially from one point to another, but across a given stand it should average 15 to 25%.** **The lowest densities and majority of openings would occur on south and west facing slopes. The north and east slopes would have fewer openings and slightly higher densities."** **The need for heavy thinning is based on Dr. Merrill Kaufmann's research and applies to both north/east and south/west slopes. Forests on north and east slopes will tend to grow more quickly than south and west slopes and heavy thinning is needed to maintain appropriate density levels for 20 years, as discussed in the DEIS (page 20).**	
Comment:	Since stand-replacement fires burned on the landscape, there must have been stands that were at least moderately dense in order to carry them. It is hard to imagine a large area of open (i. e., widely-spaced) ponderosa pine stands carrying even a passive crown fire.	Colorado Wild et al.

Comments Related to Vegetation Condition and Pathogens		*Source*
Response:	**Dr. Kaufmann's research indicates stands exceeding 30% canopy cover are most susceptible to stand-replacing fire events. The majority of the landscape did not exceed 30% canopy cover under the historic fire regime (some stands indeed were denser). The Preferred Alternative allows for a canopy cover range between 10% and 40% on any given acre to allow for diverse conditions and site-specific conditions (i.e. clumps of larger, older trees could be retained at higher densities; areas of smaller, diseased or suppressed trees could be left more open). In addition, a number of stands would remain untreated and continue to have dense canopy cover.**	
Comment:	The DEIS concludes that: "All alternatives retain old-growth characteristics." How can the Forest Service make this statement, when, at the same time, it admits that no effort was made to look for old growth in the areas that its field data indicated were the most likely to have it? The DEIS states: "[n]o adverse effects to stands mapped as old-growth in the RIS data base are expected by the treatments", implying that there is some existing old-growth, contradicting previous statements that there is no old growth.	Colorado Wild et al.
Response:	**In the summer of 2001, a walk through survey of all stands within the seven project areas was conducted, including the stands identified in the RIS database as old growth. During this survey, no stands were recognized as meeting the old growth standards, as described by Mel Mehl and included in the DEIS. The primary reason was failure to meet the minimum age requirement of 200 years.** **The Proposed Action is designed to retain the largest and oldest trees on the landscape. These trees are the ones closest to meeting Mel Mehl's old growth characteristics so that the ability of any treated stand to move towards old growth will be unimpeded. Old growth components such as platy barked trees, snags, large down wood, and clumpy distribution would be retained in all alternatives.** **Untreated stands have a higher likelihood of returning to an early seral stage and not attaining old growth stature because of stand replacing fire, insects or some other intense disturbance.**	
Comment:	The DEIS states: "the type of thinning proposed is intended to maintain older trees in mature stands". We disagree because if the average canopy closure of the treated stands is 15-25% (*see* discussion in subsection A above), it is at best questionable that a sufficient number of the larger trees would be retained. We do not believe the proposed action would retain much potential old growth, let alone a sufficient amount of it, and this is a significant problem.	Colorado Wild et al.

Comments Related to Vegetation Condition and Pathogens		*Source*
Response:	**Using the Forest Vegetation Simulator, a growth model, two simulations were created to estimate the effects of the proposed treatments. The first simulation harvested all but 10 trees per acre, which is the minimum number for old growth as described by Mel Mehl, while the second simulation targeted a leave canopy cover of 20%, the average called for in the Proposed Action.** **The 10 trees left in the first simulation left a canopy cover of 9.3%, well below the 15-25% proposed. The second simulation reduced canopy cover to 20.36%, leaving 23 trees per acre, well above the minimum number of 10 required for old growth. Based on these computer simulations, we expect to have 15 to 30 trees per acre retained following treatment, well above the minimum of 10.**	
Comment:	Also, retaining the densest stands, i. e., those exceeding 70% canopy closure, would not provide old growth, as trees in these stands are likely to be suppressed due to competition for water and nutrients, and thus they will have small diameters.	Colorado Wild et al.
Response:	**Existing dense patches were retained to meet thermal cover guidelines and provide for landscape diversity. These stands would indeed be subject to competition for resources and would be more susceptible to insects and disease than thinned areas. However, on a landscape scale, the risks of leaving these stands are considered acceptable given their distribution and the amount of thinning that will occur around them. These stands could be considered for treatment some time in the future.**	
Comment:	It is not clear when the conditions described in Tables 14 and 15 will be achieved (p. 71). This information should be included in the FEIS.	Colorado Wild et al.
Response:	**Page 5 of the DEIS states that the project would be implemented over a ten-year period. Page 63 states that the project would be increasingly effective [in meeting Purpose and Need] each year, as more and more of the project is implemented. Page 20 states that the thinning prescription is intended to maintain a fuel profile that resembles historic conditions for about 20 years following treatment.**	
Comment:	Page 72: the first paragraph states that aspen could be lost from the landscape under no action. But the next paragraph predicts that a large wildfire would burn within the next 10 years under this alternative and that, as a result, aspen "would likely sprout," and they could "dominate the site for many years." Similarly, page 73 of the DEIS notes that aspen is already sprouting in the Hayman Fire area.	Colorado Wild et al.
Response:	**Page 71 of the DEIS states that "conifers have encroached and overtopped much of the aspen and aspen stands are dying or falling apart." The analysis on page 72 shows what would happen to aspen under two potential scenarios. Scenario 1 involves the continued development of conifer stands without fire or some other disturbance. In this case, conifers would eventually overtop and shade out the aspen, in which case aspen would die. Under Scenario 2, a wildfire would kill the conifers and allow aspen to regenerate. Aspen would respond to the more open environment, dominating the site until again overtopped by conifers. Page 72 has been corrected to reflect this view.**	

Comments Related to Vegetation Condition and Pathogens		*Source*
Comment:	Page 115: why would aspen increase in grassy openings on north slopes at higher elevations under alternative E? Aspen is shade intolerant and will not grow well, if at all, on north-facing slopes.	Colorado Wild et al.
Response:	**Aspen is found on cool, moist north slopes but is currently shaded out by conifers. Creating persistent openings would eliminate conifer shading and aspen would thrive.**	
Comment:	Table 26 on page 103 shows four diversity units having some land in structural stage 5, which is old growth. While the two units with the highest percentage of land in this stage were affected by the Hayman Fire (p. 103), it is not clear from the description there how much, if any, old growth remains on the landscape.	Colorado Wild et al.
Response:	**About 50% of stands mapped as Structural Stage 5 within Diversity Unit 921 burned in the Hayman Fire; one large area appears to have been burned at a stand-replacing intensity. Stands around it appear to have burned at lower intensities. Diversity unit 922 had few areas mapped as Structural Stage 5. About 75% of these stands were burned at moderate intensity and the remaining 25% did not burn. A table displaying percentage of each Diversity Unit containing stands mapped as Structural Class 5 post-Hayman is included in the FEIS.** **Structural Class information is part of the existing database for the area and was used in the Wildlife Analysis. However, as noted previously, field surveys conducted in 2001 did not identify any stands that meet Mel Mehl's old growth definitions, primarily from failure to meet the minimum age requirement of 200 years. The Preferred Alternative would retain old trees and would facilitate attainment of old growth stature within 50 to 100 years. No Action is associated with high potential for stand replacing fires, putting current and future old growth at risk.**	
Comment:	The DEIS fails to provide a quantitative comparison between existing conditions and those that are within the natural range of variation in terms of stocking levels, degree of mistletoe infestation, or fire risk.	Sierra Club et al.
Response:	**Canopy cover is a surrogate for stocking levels; Table 11 in the DEIS provides a comparison of current and historic conditions. No quantitative data was found on the historic levels of mistletoe, but current scientific information suggests that historic levels of mistletoe were lower than they are today (DEIS page 77). Fire risk was evaluated for all alternatives including No Action, which reflects the existing condition. Fire Regime Condition Class analysis was used to evaluate fire risk, along with professional judgment of the Interdisciplinary Team.**	
Comment:	Historical fire helped limit regeneration and reforestation. Unless seedling establishment after fuels treatments is managed properly, there is a significant risk that regeneration will occur too soon and be excessive, recreating our current over-stocked condition all over again. In that sense, Alternative E would likely require relief from stocking rules and changes in the Forest Plan, and USFWS consultations. But isn't that what we need so we get the ecology right?	Dr. Merrill Kaufmann

Comments Related to Vegetation Condition and Pathogens		*Source*
Response:	**The DEIS states that Alternative E would most closely approximate historic conditions, and would require Forest Plan amendments. Amendments have not been initiated because Alternative E is not the Preferred Alternative. If the decision maker wishes to select Alternative E in total or modified, Forest Plan amendments would be pursued as needed.**	
Comment:	The document should not fail to provide a sufficient range of alternatives to avoid removing big, old, large-diameter, overstory trees in order to reduce fire hazard.	Sierra Club et al.
	We support meaningful diameter limits as described for Alternative D to reduce public concerns about large trees. Trees 150 years old are under-represented in the Front Range ponderosa pine habitat.	EPA
	Despite the recommendation in our scoping comments to establish a diameter limit for each stand or unit area (above which, trees would be retained), the Forest Service has refused to do so. This, in turn, is likely to reduce the chance of future old growth ever developing on the landscape.	Colorado Wild et al.
	Leave all trees over 15 inches diameter.	Stocker Lien Fouke Prendergast Bennett Batchelder Herb
Response:	**Alternative D in the DEIS included diameter limits to avoid removing larger trees. Age and size are not necessarily correlated in the stands proposed for treatment. Older pine trees that display flat tops and platy barks would be retained in all alternatives. Sufficient numbers of older trees would be retained to meet old growth classification guidelines (see previous comments about old growth).** **The lack of very old trees in the project area is recognized and the thinning prescription retains the largest and oldest trees. However, there are too many mature trees that have grown up during the last 100 or more years and contribute to the fuels hazard. Mature trees burned catastrophically in the Buffalo Creek, Hi Meadows, and Hayman fires. The current mature tree canopies are much denser than the historical stands and sustain the high-intensity crown fires. Additionally, the current dense forest condition also stresses all trees, making them more susceptible to insects and disease. Removing small trees only would have little or no effect on reducing the susceptibility to insects and disease.** **The Preferred Alternative would retain the oldest trees and provide a healthy forest environment to insure their survival. Rather than setting an arbitrary diameter limit on trees, the emphasis would be placed on the remaining stand structure. The prescription would be outcome-based.**	
Comment:	What is to be done with the trees that have Rocky Mountain Beetle infestations? What is the % of trees affected in the Skelton area?	Doering

Comments Related to Vegetation Condition and Pathogens		*Source*
Response:	**When stand surveys were conducted in the summer of 2001, no mortality from mountain pine beetle was observed. However, in the summer of 2002, mountain pine beetle mortality was observed in the Ridgewood area (the Skelton area was not visited). Therefore, it is unknown if mountain pine beetle is currently active in the Skelton area. Trees killed by mountain pine beetle could be yarded or retained for wildlife habitat. Implementation prescriptions would consider site-specific conditions. Mountain pine beetle has increased over the last few years and with last year's drought, may increase again. Susceptibility is high in the Skelton area, along with the other project areas. The % of trees affected is unknown.**	
Comment:	It is not understood whether or not crown fires are necessary for "forest health."	Sierra Club et al.
Response:	**Research by Kaufmann and others indicate that the ponderosa pine forests of Colorado's Front Range were dominated by a mixed or moderate-severity fire regime. Mixed severity fire regimes are characterized by a combination of low-severity ground fires and high-severity stand replacing crown fires. This combination would maintain low stand densities and create openings (less than 75 acres) with few to no trees. As a result, forest health was maintained. The difference today is that following 100+ years of fire suppression, stand density is high and crown fires can exceed thousands of acres, as seen in the Hayman fire of 2002.** **The project is designed to reduce the potential for damaging wildfires within the urban-wildland interface and adjacent municipal watershed. The project responds to the immediate need; continued likelihood of a Hayman-type fire would be the result of No Action. Density reduction across a substantial portion of the landscape is needed to reduce this probability. Dense patches of forest will remain in the Proposed Action.** **Future forest management may integrate further ways to allow for a more natural fire regime to operate within the Trout-West analysis area. The Pike-San Isabel National Forest Plan revision will consider the historic fire regime to determine how to sustain healthy forests. Future management within the Trout-West analysis area is likely to include maintenance of openings along with denser patches of trees. Silvicultural treatments can mimic the effects of fire and maintain forest health, without the need for crown fires.**	

COMMENTS RELATED TO SOILS AND WATER QUALITY

Comments Related to Effects on Soils and Water Quality		*Source*
Comment:	The DEIS attempts to justify the proposed actions by claiming they will result in reduced erosion rates, compared to no action. This is a very difficult claim to prove. Attempts in the DEIS made to support this claim are based on simplistic models and flawed logic. No hard empirical data is offered to support the claim that No Action will produce the most sediment in Trout Creek in a ten-year period, all we are offered is the output of the simplistic Water Erosion Prediction Project model (the WEPP model) for justification. The WEPP model produces figures 1 and 2 on page 85, which are alleged to support the claim. However the use of the WEPP model here constitutes a garbage in garbage out approach. The frequency and size of forest fires feeds directly into the WEPP model and these assumptions are purely speculative guesses.	Sierra Club et al.
Response:	**Models, by their very nature, are a simplification of the complex environment and require validation through monitoring and comparing actual effects to predicted effects. This recognition does not invalidate the use of models such as WEPP to compare alternatives. Using the same assumptions for all alternatives, the model predictions inform the decision maker and disclose to the public the risk for erosion and the necessity for stringent design features to minimize the amount of erosion initiated by the action alternatives. In addition, the WEPP model displays the risk of No Action. The effects of recent wildfires were used to characterize No Action as a baseline to compare action alternatives.**	
Comment:	The Trout West Project will degrade water quality and watershed condition.	Sierra Club et al.
Response:	**Since damaging wildfire is a virtual certainty across the project area, No Action would degrade water quality and watershed conditions more than the Preferred Alternative.**	
Comment:	Prescribed burning of hand- or machine-piled logging slash causes severe soil impacts. This can "sterilize" the soil, and worse, can provide opportunities for invasive weeds to grow on exposed soil underneath burn piles.	Sierra Club et al.
Response:	**Pile burning is intended to occur when the soils are wet under the slash pile; the moisture keeps the heat from volatilizing organic compounds in the soil and penetrating beneath the surface.**	
Comment:	The Trout West Project DEIS allows for further degradation of Trout Creek by loading it with increased quantities of sediment via logging, road building, prescribed burns, and other activities. This creek is already 303(d) listed as a Water Quality Limited Segment (WQLS). This degradation of a 303(d) creek stands in clear violation of the Clean Water Act anti-degradation policy. Also, Total Maximum Daily Load (TMDL) assessments are required by the Clean Water Act, since Trout Creek is 303(d) listed. The FS has failed to provide these TMDLs. Project activities would also degrade West Creek, which is listed for 303(d) monitoring and evaluation. Tributaries to Trout Creek and West creek are also 303(d)	Sierra Club et al.

Comments Related to Effects on Soils and Water Quality		*Source*
	listed. Thus, in short, the proposed project violates the Clean Water Act and fails to provide any consideration or implementation of the required TMDL plan.	
Response:	**The Forest Service recommended that Trout Creek be placed on Colorado's 303(d) list and provided the information to support the listing. No numeric standards have been provided by the state.** **The TMDLs for all water bodies in Colorado are the authority of the Colorado Division of Public Health and Environment, Water Quality Control Division. Their recent publication Water Quality Limited Segments Still Requiring TMDLs, Colorado's 2002 303(d) List and Monitoring and Evaluation List, September 10, 2002, list Trout Creek as a moderate priority for TMDL development.** **Deferral of the project until the TMDLs were prepared would delay fuels reduction and leave the watershed with high potential for damaging wildfires for one or more years. Such a delay is not warranted, because the effects of a damaging wildfire would be much more harmful to the streams than the project itself. Even without a wildfire, unclassified roads are currently delivering sediment. The project would result in reduced sediment from these roads from improvement and eventual rehabilitation.** **The DEIS (pages 23 and 24) notes several design features to reduce the potential for erosion as a result of project operations. These meet or exceed all state Best Management Practices and watershed standards. Helicopter yarding has been proposed specifically to reduce potential for accelerated erosion from the project. Monitoring for soil and water impacts was discussed on pages 28 and 30. The Forest Service did not develop an alternative that would be less expensive because "preliminary analysis showed that the risks of increased road construction and relaxed soils protections outweighed the potential cost savings" (see page 48).**	

Comments Related to Effects on Soils and Water Quality		*Source*
Comment:	The Trout West Project's DEIS estimates that 20,000 acres of the Trout and West Creek watersheds will be disturbed by commercial logging, other kinds of thinning, road building, prescribed burns, and continued cattle grazing. All these activities would increase erosion, may introduce significant amounts of petroleum products and other pollutants into Trout and West Creek, and thus further degrade Trout Creek in clear violation of the CWA. The vast majority of these 20,000 acres have either moderate to severe erosion potential or have a moderate to severe potential for soil compaction, the latter of which will increase runoff and thus also erosion. The Proposed Action would use (and maintain or reconstruct) 68 miles of roads in the project area. About 14 miles of temporary roads would be built and then reclaimed when no longer needed. An additional 48 miles of existing non-system roads would be upgraded and used, and then reclaimed when no longer needed to implement the project. The potential for increased erosion from these roads, and thus further degradation of the creeks, is enormous. Livestock grazing, which is already causing significant watershed degradation, will continue without measures to mitigate its devastating impact to wet meadows and riparian areas, and without measures to stop the denuding of the forest floor by cattle which will increase erosion and degrade the creeks.	Sierra Club et al.
Response:	**The relative level of erosion anticipated from operations, along with that of damaging wildfire, was estimated for each alternative. The use of heavy equipment poses a risk for the introduction of petroleum products into area streams. In recognition of this risk, the project was designed to avoid new stream crossings. Buffers would be maintained along all perennial and intermittent stream channels. A design feature has been added to acknowledge that a spill plan will be part of the contracts to implement this work.** **Road maintenance and reconstruction can reduce the amount of road-related erosion by improved water management practices such as rolling dips or relief culverts that divert water into filter strips and sediment traps. The realignment of non-system roads would reduce chronic erosion associated with these roads although minor at the watershed scale, and rehabilitation of the 19 miles of unclassified road in Trout Creek watershed would reduce the chronic erosion and sediment delivery over time.** **Because the soil erosion hazard is moderate to severe, increasing with slope (compaction hazard is low due to the coarse texture of the soil), all action alternatives generally avoid tractor yarding on slopes greater than 20% to minimize the risk of accelerated erosion.** **Historic levels of grazing likely did cause some of the gullies evident but current levels of grazing are having no such impact.**	
Comment:	There also are no plans to mitigate the surface seepage of cattle dung into the creeks.	Sierra Club et al.
Response:	**Seepage of cattle dung into the creeks is not an issue within the scope of this EIS. It was not raised during scoping and is not affected by any alternative.**	

Comments Related to Effects on Soils and Water Quality		*Source*
Comment:	No erosion estimates from the (WEPP) model are reported for yarding, temporary roads, or broadcast burning; we are only told these actions were addressed by the model. No full accounting of the acreage affected by yarding or roading are reported.	Sierra Club et al.
Response:	**The WEPP analysis, as discussed in the Watershed and Soils Specialist Report, includes the various elements as individual components that were summarized in the DEIS. The Watershed and Soils Specialist Report is available upon request and is posted on the website.**	
Comment:	Piling has its own problem: the scraping of topsoil. Soils in the Project area are thin. Any soil loss should be considered detrimental and should be avoided to the maximum extent possible. Note that soils in the Project area are also very erosive (p. 81), so some soil loss would likely occur as the result of treatments even without slash piling.	Colorado Wild et al.
Response:	**The Forest Plan and Regional Standard is that no more than 15% of a treatment unit may have detrimental soil impacts including compaction, displacement, puddling and soil heating. Slash piling in tractor units may need to be piled by boom-mounted grapples or others methods so that the 15% standards is not exceeded. The DEIS includes mitigation and monitoring to reduce risk of exceeding the standard.**	
Comment:	The DEIS includes a number of design features that are intended to ensure "soil and water quality protection" (pp. 23-24). While these seem generally appropriate to us as far as they go, the Forest Service must demonstrate how they are likely to be effective in reducing production of sediment and its delivery to area streams. This is especially important in light of the fact that previous stream stabilization measures have not been effective, and that the Hayman Fire will produce and deliver much sediment to Trout Creek (see p. 86).	Colorado Wild et al.
Response:	**Design features such as generally avoiding tractor yarding on slopes greater than 20%, stringent road location criteria, and application of Forest Plan standards and guidelines and state BMPs would reduce the amount of disturbance and associated soil erosion and minimize the distance that detached soil would likely move. Some sediment would reach area streams (the worst-case prediction is about 60% of the amount of accelerated erosion) as an indirect effect of the project. The WEPP model demonstrates that the design criteria applied to the project design results in less sediment delivery than wildfire and monitoring is recommended to validate WEPP model results. The adaptive management plan could result in changes to the project over time if the project results in unacceptable soil loss.**	
Comment:	Table 19 on p. 84 shows alternative D producing the highest amount of sediment from all sources in the Trout Creek drainage. In fact, it is higher than no action, considerably higher than *alternative E* (the most intensive action alternative), and much higher than the proposed action. This simply makes no sense, as the proposed action and alternative E both propose to treat much more acreage than alternative D, and thus should also produce more sediment.	Colorado Wild et al.

Comments Related to Effects on Soils and Water Quality		*Source*
Response:	**As stated on page 86 of the DEIS, Alternative D generates the most sediment because it includes a greater proportion of prescribed burning (which generates more erosion than mechanical treatments) and because it does not treat sufficient acreage to reduce potential for damaging wildfire. The two added together generates a predicted amount greater than No Action.**	
Comment:	Projects scheduled for degraded watersheds should not proceed until the Forest Service can demonstrate that conditions have recovered to optimum levels.	Sierra Club et al.
Response:	**The consequences of deferring treatment would put the watershed and aquatic habitat at greater risk from damaging wildfire, causing further degradation than the Preferred Alternative. Recovery to optimum levels cannot occur given continued wildfire damage.**	
Comment:	According to the WEPP model, erosion is increased in West Creek in most action alternatives as compared to No Action. We recommend that restoration and improvement projects beyond those already discussed be included to mitigate for potential impacts.	EPA
Response:	**The anticipated increase in soil erosion and sediment delivery in West Creek for most action alternatives over No Action is primarily a result of prescribed broadcast burning to reduce fuels and fewer acres are expected to burn in the No Action alternative due to the amount burned by the Hayman Fire. Most action alternatives plan to reduce unclassified road mileage by 29 miles and reduce road density within 300 feet of streams from 3.23 mi/mi^2 to 2.41 mi/mi^2. Rehabilitation of unclassified roads and reduced potential for damaging wildfires more than offset the adverse effects of project operations. The project includes several design features to reduce potential effects and includes monitoring and adaptation to assure soil and water standards will be met.**	
Comment:	It will be necessary to eliminate or reduce livestock grazing in recently treated areas for one or more years to ensure that further erosion (beyond that caused by treatment) does not occur and give ground vegetation a chance to germinate and grow. If allowed onto treated areas too soon after treatment concludes, livestock could easily trample and/or eat too much of the vegetation that may appear after treatment, leading to further soil loss. We recommend that the Forest Service begin working with livestock permittees now, to avoid disruption of grazing operations later.	Colorado Wild et al.
Response:	**The effects of livestock grazing are monitored as part of each allotment's annual operating plan. An increase in transitory range is expected as conifer biomass is reduced but there are no plans to increase grazing. Work with permittees would continue as part of implementation planning. Forage recovery would begin almost immediately following treatment.**	
Comment:	The FS is making predictions with the WEPP model about how much erosion will occur as a result of fire, while the rate of vegetative recovery is not even addressed.	Sierra Club et al.

Comments Related to Effects on Soils and Water Quality		*Source*
Response:	**The WEPP model did address vegetative recovery. As stated in the Watershed and Soils Specialist Report, the WEPP analysis assumed that a five-year recovery period following a sigmoid curve would reflect the time that erosion would return to background levels. That is 100% the first year, 95% the second year, 70% the third year, 30% the fourth year, 5% the fifth year, and zero thereafter.**	
Comment:	The Division is concerned about the riparian buffer of 100 feet. We recommend the 100 feet be delineated from the edge of the riparian ecosystem.	Colorado Division of Wildlife
Response:	**Riparian buffers will be laid out on a site-specific basis to assure that the riparian ecosystem is adequately buffered. Steeper slopes will incorporate larger buffers as needed to avoid excessive sediment delivery.**	

COMMENTS RELATED TO FISH AND WILDLIFE

Comments Related to Effects on Fish and Wildlife		*Source*
Comment:	The Division agrees with the recommendations for snag density and the dead and down component within project areas. We also support leaving slash available for at least a year, this practice will provide additional benefit to resident wildlife, reduce the risk of soil erosion, and provide nutrients and cover for vegetation establishment.	Colorado Division of Wildlife
Response:	**These measures are incorporated into the Preferred Alternative.**	
Comment:	The document should not fail to disclose the adverse effects on native fauna from prescribed burning in early spring.	Sierra Club et al.

Comments Related to Effects on Fish and Wildlife		*Source*
Response:	**General effects of prescribed burning are found in the Wildlife Specialist Report in the project file. Along with the general effects, it lists the assumptions used for the analysis: jackpot or pile burning could occur from mid-October thru March and broadcast burning could occur from March to April or September to October.** **Not all species have the potential to be affected by spring burning. Underburning would not affect overstory trees and species nesting in the overstory would not be affected (i.e., Abert's squirrel, flammulated owl, Lewis' woodpecker, etc). Other larger, very mobile species like elk and mule deer could be temporarily displaced by the human activity associated with spring burning.** **Potential effects of prescribed burning in the spring are addressed for several species. The pygmy nuthatch (which is used as an "indicator" for ponderosa-pine associated breeding birds) is addressed in the Biological Evaluation (BE) in Appendix B. Effects on amphibians (tiger salamander and northern leopard frog) are also in the BE. Merriam's turkey, which is a Management Indicator Species (MIS), nests on the ground. The potential for effects to this species were addressed on pages 108-118 of the DEIS.** **A recently released paper (Pilliod et al., in press) looks at the effects of fire on amphibians in North America. Generally, effects vary depending on the season of the burn and the time since the burn. Wildfires usually burn during dry conditions; most amphibians are underground at this time or close to water. Prescribed burning, which usually occurs in the spring or fall, may occur when surface conditions are cooler and moister and amphibians may show more surface activity. The potential for direct mortality increases at these times. Burning also indirectly causes habitat alteration through 1) alteration of water temperature profiles; 2) decreased shade through loss of overstory, understory, and surface litter which increases surface temperatures and exposure to suns rays; and 3) increased sedimentation in streams, which reduces interstitial spaces used to lay eggs, forage and hide. These potential effects have been updated for the final BE.**	
Comment:	The DEIS states that all alternatives other than Alternative E would have no adverse direct effects on T&E species. It also states that Alternative E may require additional consultation with USFWS under Endangered Species Act, this is not explained. Why?	Colorado State Forester
Response:	**A Biological Evaluation and Biological Assessment are included as Appendix B of the DEIS. The BE/BA concluded that all action alternatives (including the Preferred Alternative and Alternative E) are the same in relation to the Endangered Species Act. All alternatives "*May Effect but are Not Likely to Adversely Affect*" bald eagle. The BE/BA also concluded that no other threatened or endangered species would be affected by any alternative. The quoted statement that Alternative E may require additional consultation is not accurate and has been corrected in the FEIS.**	
Comment:	Forest plan amendments for thermal cover didn't seem to be problem in the Upper South Platte project.	Colorado State Forester

Comments Related to Effects on Fish and Wildlife		*Source*
Response:	**Alternative E would require Forest Plan amendments (similar to the Upper South Platte project) because it would thin denser stands currently mapped as thermal cover. The Upper South Platte project recognized that current Forest Plan guidelines for thermal cover for elk and mule deer are not based on sustainable ponderosa pine forest conditions. The Trout-West project team found that retention of existing thermal cover did not substantially limit the ability of the project to meet the Purpose and Need.**	
Comment:	The Trout-West Project will jeopardize the viability of species that thrive in naturally disturbed forests.	Sierra Club et al.
Response:	**The Wildlife section of the *Pike-San Isabel National Forest Land Management Plan Monitoring Report* (2000) reports that one intention of the Plan was to focus forest management in over-represented structural stages and produce a forest having a more optimal mix of habitat characteristics. The Proposed Action and alternatives move towards that goal, to varying degrees. This project has been designed to move the vegetation (and habitat) conditions closer to what would occur under natural fire regimes. All of the species analyzed are adapted to these conditions.** **The Pike-San Isabel National Forest has completed species evaluations for all of the Plan Management Indicator Species (2002). This included Species Trend Evaluations (Appendix A). These evaluations include species habitat relationships, habitat and population trends, and adequacy of Forest Plan direction and recommendations. These species evaluations were used to help develop and evaluate the alternatives on MIS for this project. In addition, the HABCAP model, along with incorporation of mitigation measures, was used to assess the potential for the wildlife analysis area to provide habitat for MIS over the short-term and long-term. These effects are addressed on DEIS pages 108-118.** **Elk, mule deer and mountain bluebirds are expected to benefit from the Proposed Action. Red-naped sapsuckers may see a short-term decrease in habitat; over the long-term they would be benefited by an increase in aspen. MIS species that could see a decrease in habitat have been addressed through mitigation. There has been mitigation for retention of Abert's squirrel feeding and nesting trees during project layout. This, in combination with patchy thinning, retention of thermal cover, large areas that are untreated (Table 41), and expected increases in cone production, led to the determination that habitat suitability and populations of Abert's squirrels would be maintained at the current level (Table 35). Because there is some uncertainty in this determination, monitoring has been added to the project. This would inventory pre- and post-treatment densities of Abert's squirrels, using Forest survey protocols. The HABCAP model predicted a decrease in winter habitat for Merriam's turkey. This has been addressed through retention of known turkey roosts, thermal cover patches, etc. There are no techniques available to reliably estimate density or total population size of wild turkeys (USFS 2002) and no monitoring has been included for this species. It is expected that project design and mitigation will maintain habitat for these species.** **Effects on threatened, endangered and sensitive species are discussed in Appendix B. As shown in Table 24 of Appendix B, the determination for all of the sensitive**	

Comments Related to Effects on Fish and Wildlife		*Source*
	species is "may impact individuals or habitat, but will not likely to contribute to a trend towards federal listing or cause a loss of viability to the population or species."	
Comment:	We are particularly concerned about wildlife that depends on mature, developing old growth, and/or old growth and/or larger tracts of unfragmented native forests.	Sierra Club et al.
Response:	**Several species are associated with older, mature forest. Management Indicator Species for these conditions are listed in Table 22 on page 95 of the DEIS. Effects on these species are discussed on pages 108-118. In addition, several sensitive species are associated with older, mature forest (i.e., northern goshawk, flammulated owl, three-toed woodpecker, pygmy nuthatch and golden-crowned kinglets). These are discussed in the BE in Appendix B.** **Fragmentation occurs when an expanse of habitat is broken into two or more patches separated by different types of habitat. Fragmentation may 1) reduce the total area and average patch size of the original habitat; 2) increase isolation of patches of original habitat; 3) introduce new habitat in the area; and 4) increase edge habitat (F. Sampson, R1 Wildlife Ecologist, unpublished document).** **The treatments proposed in the Proposed Action and Alternatives A through D would open up mature stands, but resulting forest would be patchy, with denser clumps and more open areas throughout. Alternative E includes creation of persistent openings. As these alternatives were designed to move forests toward historical conditions, in general, habitat for the wildlife species associated with them would be improved. However, where there were specific issues (i.e. isolation of nest and feeding clumps for Abert's squirrel; increase in aspen in the understory and red-naped sapsucker; and increase in edge habitats and effects on mountain bluebird), these are addressed in the analysis on pages 108-118. Similarly, potential effects of fragmentation on sensitive species are addressed in the Biological Evaluation. Fragmentation of older forests has not been found to be at issue in this project, based on the aforementioned analyses.**	
Comment:	The DEIS's assertion that listed species are protected from negative impacts is in reality a questionable assumption. The measures taken to address these listed species may or may not provide the asserted protection.	Sierra Club et al.

Comments Related to Effects on Fish and Wildlife		*Source*
Response:	**Mitigation measures for this project are based on Forest Plan Standards and Guidelines (i.e., snags, downed woody debris, big game calving/fawning, and turkey roost clumps). Other mitigation measures were developed to meet more general Forest Plan direction (manage and provide habitat for recovery of T&E, maintain habitat for viable populations of all existing vertebrate wildlife species, etc.). These measures include Forest direction for management around goshawk and flammulated owl nests and Abert's squirrel nesting and feeding clumps. Implementation and effectiveness monitoring has been identified for this project; they are addressed on pages 28-29 of the DEIS. An additional monitoring item has been added to this project since release of the DEIS. This involves pre-and post-treatment inventories for Abert's squirrel.** **Project-specific design features are also recommended for Prebles' meadow jumping mouse and bald eagle. Modification of one unit would eliminate the potential for effects on potential Prebles' jumping mouse habitat. Additional monitoring for bald eagle use around Manitou Lake will determine whether additional mitigation would be necessary. This additional mitigation was developed from conservation measures outlined in the Biological Opinion for the Upper South Platte Watershed Restoration and Protection Project (USFWS 2001).**	
Comment:	Brook trout are known to be resistant to sediment prone habitat. The DEIS acknowledges this and states that they tend to out compete native species and also rainbow trout, brook trout, snake river cutthroat trout, and greenback cutthroat trout. Selection of a sediment resistant species skews the project in a variety of ways. Selection of a nonnative species [brook trout] may be due to the lack of individual native species of fish, but the DEIS, BE, and BA fail to even consider what species may or may not be present in the project area.	Sierra Club et al.
Response:	**Forest MIS including brook trout were selected during development of the Forest Plan. They were selected because the public had high concern for this species and a high interest in fishing (USFS 2002). The Forest has recently reviewed species identified as Plan management indicator species (USFS 2002). This review finds that Colorado brook trout seem to be declining, possibly due to competition with brown trout or infection with whirling disease. Brook trout provide minor recreational fishery opportunities but the state does not systematically monitor brook trout populations. Riparian improvement projects and required riparian protection measures will likely be beneficial to brook trout. This species can be monitored at various watershed scales. However, there are so few populations in the area that could be directly affected, monitoring for this project is not recommended (T. Wagner, Forest Fisheries Biologist, personal communication). This and other species are monitored routinely at lower portions of the main stem of the South Platte. Brook trout and other fish species (native and non-native) will be evaluated for use as MIS during the next Forest Plan Revision.**	
Comment:	Because the proposed action will take birds protected under the Migratory Bird Treaty Act, the Forest Service must obtain a permit from Fish and Wildlife Service.	Sierra Club et al.

Comments Related to Effects on Fish and Wildlife		*Source*
Response:	**The Forest Service and U.S. Fish and Wildlife Service (USFWS) are working on a National Memorandum Of Understanding (MOU) to address the Migratory Bird Treaty Act and Forest Service land management and the potential for unintentional take. Current direction is to link projects with the current MOU with USFWS (2001) and Partners In Flight Bird Conservation Plans, identify which species to address, and address effects through a habitat analysis (C. McCarthy, R4 Wildlife Ecologist and J. Robinson, R5 Regional Avian Coordinator; personal Communication, 3/11/03).** **The MOU with the USFWS includes an objective of "strive to protect, restore, enhance and manage habitat of migratory birds, and prevent the further loss or degradation of remaining habitats on NFS lands." This project is consistent with that objective. The Colorado Bird Conservation Plan (2000) identified fire exclusion and resultant overstocked stands and heavy fuel loadings in ponderosa pine habitats as a conservation issue. As discussed in the DEIS (p. 120), the pygmy nuthatch was selected as an indicator for ponderosa pine-associated species. Effects on this species are discussed in the Biological Evaluation.** **Conservation measures for ponderosa pine associated species have been applied thru project design and mitigation. Some examples include retention of denser stands (thermal cover, north slopes, etc); irregular, clumpy distribution of trees; and implementing Forest Plan direction for retention of snags and downed woody debris.**	
Comment:	For many MIS species, the Forest Service has no up-to-date population data describing population numbers, locations, and trends, nor monitoring data on which the agency can rely to determine that the actions proposed in the context of the Trout West Project will maintain numbers and distribution of these species sufficient for insuring long term viability.	Sierra Club et al.
	From the description of MIS on pp. 96-99, it appears that no population or trend data has been gathered for the chosen MIS, except for deer, elk, and beaver. If so, the Forest Service has not complied with the applicable regulation and case law, and must do so before approving this Project.	Colorado Wild et al.
Response:	**The Pike-San Isabel National Forest has completed species trend evaluations for all of the Plan MIS (2002). These evaluations include species habitat relationships, habitat and population trends, and adequacy of Forest Plan direction and recommendations. These evaluations were used to develop and evaluate the alternatives for this project. Population trends information varied by species. Sources of information vary, but include the Colorado natural heritage programs, Colorado Division of Wildlife, breeding bird surveys, Colorado Bird Observatory, and others.** **The intent of the Forest Plan is to monitor habitats using habitat capability models and monitor populations using information provided by State wildlife agencies (USFS 2002). Recent changes in interpretation of MIS population monitoring direction has led to a review of Plan MIS (USFS 2002). This review looked at each of the MIS and whether they met NFMA criteria for a MIS. In this review, they used information gathered during their species trend evaluations.**	

Comments Related to Effects on Fish and Wildlife		*Source*
	They found that population trend cannot feasibly be monitored at the project scale for any of the MIS in the Pike-San Isabel Forest Plan. Most of the species have wide distributions, vary in home range size, and populations and trends are not always tied to a specific project area. In addition, population trend needs to be assessed over long periods of time due to natural fluctuations and variations within populations, and the project scale is not adequate for that level of monitoring. **Regional direction for population analysis of MIS at the project level was used for this analysis (4/20/01). This direction is to use estimated population numbers, species-habitat relationship information, population occurrence data, population indices, or other techniques to quantify or describe conditions and responses of MIS to each alternative. Where data are insufficient to draw conclusions about population trends, the following analysis should be used. First, demonstrate how habitat analysis is adequate for the population being analyzed. Second, show that the habitat analysis adequately considers cumulative effects to each species, and last demonstrate commitment to population monitoring at reasonable intervals and at appropriate scales.** **The HABCAP model, along with incorporation of mitigation measures, was used to assess the potential for the wildlife analysis area to provide habitat for MIS over the short-term and long-term. These effects are addressed on pages 108-118 of the DEIS.** **MIS trend information has been assembled from several parts of the DEIS (species information on pages 96-99), effects of alternatives, mitigation (page 24), cumulative effects analysis (page 117-118), and monitoring (page 27-30) and added to the FEIS in a table format.**	
Comment:	Heavy thinning will certainly hurt goshawk nesting. Goshawk nesting density appears to be closely associated with dense overstories and open understories. Goshawk habitat may therefore be improved by silvicultural activities, which reduce the densities of shrubs, saplings and small poles, while maintaining or enhancing the canopy of large trees.	Sierra Club et al.
Response:	**Goshawk habitat is not expected to be adversely affected by heavy thinning. The Proposed Action and Alternatives A-D retain thermal cover patches and areas of thicker trees on steeper slopes. These alternatives would create a clumpy distribution of denser and more open stands. Retention of overstory trees, and denser clumps, as well as monitoring/mitigation for known nest territories will maintain nesting habitat in the treated areas. As is shown in Table 41 of the DEIS, there will be significant amounts of dense, mature stands left in most of the Diversity Units after treatments. Opening of the understory will improve foraging habitat around the nest stands. The mitigation does include timing restrictions for activities around known nest sites (DEIS page 24).**	

Comments Related to Effects on Fish and Wildlife		*Source*
Comment:	The potential impacts on the calving, fawning, and migration activities of elk and deer need to be adequately addressed. Thinning that removed too many trees over sizable areas could significantly reduce hiding and thermal cover in those areas, forcing deer and elk to find other habitat, the amount and effectiveness of which is already limited to a considerable degree by the presence of open roads and human residences.	Sierra Club et al.
Response:	**As the DEIS states, populations of elk and mule deer currently meet state population objectives. Over the long-term, all alternatives should improve forage conditions and potentially improve distribution. To address specific habitats or habitat components, mitigation has been incorporated into the project. This includes timing restrictions for calving and fawning concentration areas, and retention of riparian buffers and existing stands of thermal cover (except Alternative E).** **Because the potential to provide cover varies widely by forest type, structural stage, number of forest canopies, and height of understory shrubs and topography, it is a very site-specific measurement. The existing riparian buffer will maintain cover adjacent to riparian areas. We are not treating any thermal cover (3c and 4c) that may provide cover, and we are not treating some stands on steep slopes. As is shown in Table 41, there will be significant amounts of dense, mature stands left in most of the Diversity Units after treatments. Many stands will see an increase in aspen after treatments and would increase cover in the summer and fall over the long term. In addition, there would be some decrease in motorized access, as non-system roads are rehabilitated following use for the project.**	
Comment:	Habitat for amphibians such as wood frog and boreal toad could be destroyed.	Sierra Club et al.
Response:	**Effects on tiger salamanders and northern leopard frogs are addressed in the DEIS (Appendix B). As is addressed in the BE (p. B-44), no known boreal toad populations are in the project area so effects on this species were not addressed further. The wood frog is not an MIS or sensitive species for the Pike-San Isabel National Forest, nor are they listed as threatened or endangered. According to distribution maps, they are not found in this part of Colorado (see www.mp2-pwrc.usgs.gov/armiatlas). As a result, they were not analyzed in the FEIS.**	
Comment:	The Forest Service should describe in detail how the "larger post-fledging family area would be applied" to goshawk.	Colorado Wild et al.

Comments Related to Effects on Fish and Wildlife		*Source*
Response:	**Region 2 has no specific direction for goshawk management in the Region, but the Southwest Management Recommendations (Reynolds et al. 1991) from R3 are the best available (N. Warren, R2 Wildlife Biologist, personal communication, 3/11/03). These recommendations list features of the post fledging area (PFA): dense, live trees; large trees for squirrels, large snags/trees for woodpeckers; patches of mid-aged forest with high canopy cover; small openings; and downed logs and woody debris. These features are incorporated into the project.** **Larger post-fledging buffers would include vegetation treatments that are consistent with the intent of the Guidelines (1991). These recommendations include a range of structural class percentages to maintain across the landscape; however, these are based on southwest Ponderosa pine and do not apply to Front Range ecology. Operations will be restricted between March 15 and September 15 around active nest sites.**	
Comment:	We question how well Abert's squirrels will fare under the proposed action. Protecting existing clumps with nesting and feeding trees is important but may not be sufficient to maintain viable populations. It is questionable whether thinning as heavy as that proposed by this Project will leave enough habitat of sufficient quality for this species.	Colorado Wild et al.

Comments Related to Effects on Fish and Wildlife		*Source*
Response:	**The Trout-West Project includes up to date management guidelines for Abert's squirrel. In April 2001, the Pike-San Isabel National Forest had an Abert's squirrel workshop and Dr. Mark Snyder of Colorado College suggested these guidelines for ponderosa pine thinning:** **1) Leave trees with largest diameters available; 2) leave as many feed trees as possible; 3) where there are openings, leave stringers between patches and consider potential for predation in openings; 4) leave the nest tree and associated interlocking trees; 5) leave patches or clumps of uneven age or regeneration to provide future clumps; and 6) leave patches or clumps of even age for nesting, mobility and cover.** **This project addresses these points by retaining the largest trees in the overstory; marking and leaving all feed and nest clumps; no treatment of thermal cover and riparian buffers; and retention of forest on steeper slopes in the tractor units. The DEIS concludes that the Preferred Alternative maintains adequate Abert's squirrel habitat in the area. Monitoring included in the project would inventory pre-and post-treatment Abert's squirrel populations using Pike-San Isabel National Forest survey protocols.**	
Comment:	The results of the HABCAP model show that the proposed action would decrease the habitat capability for this Abert's squirrel (p. 109). The Forest Plan requires that at least 40% of potential capability be maintained for all species (Forest Plan at III-321). Some Forest Plan Management Areas require greater levels of habitat capability. Since the capability for Abert's squirrel is already under 40% and would drop further as a result of Project implementation, the proposed action would violate the forest plan. While mitigation for this species -- such as protecting nesting and feeding clumps -- would protect existing nests, it probably would not provide sufficient habitat for future populations, given the sheer number of trees slated for removal under the proposed action. The Forest Service must address this clear Forest Plan violation in its FEIS.	Colorado Wild et al.
Response:	**As discussed in the DEIS, the existing condition is below the 40% level. Based only on the HABCAP model, habitat capability would decline as a result of thinning. However, the model does not allow for incorporation of mitigation measures and design features for Abert's squirrels. Abert's squirrels feeding trees and occupied habitat will be maintained and populations will be monitored with adaptation as needed to assure protection of the squirrel and its habitat. This approach is consistent with Forest Plan guidelines.**	
Comment:	Habitat capability for red-naped sapsucker is already below 40% and would drop further under the proposed action (p. 109), thus violating the Forest Plan.	Colorado Wild et al.

Comments Related to Effects on Fish and Wildlife		*Source*
Response:	**Based only on the HAPCAP model, habitat capability could decrease for red-naped sapsucker as a result of thinning. However, the model does not allow for incorporation of design features such as retention of the oldest and largest trees in treated stands. Also, thinning would increase proportion of aspen and benefit this species.** **The Hayman Fire reduced habitat capability in burned areas. The average pre-Hayman habitat capability across the Wildlife Analysis Area was 44%. After Hayman, it dropped to 32%. The model predicts a 2% decrease for the Proposed Action. Wildfires under No Action would have far more severe effects than thinning.**	
Comment:	Page B-30 states that there are mitigation measures "to maintain habitat and current nest territories" for three-toed woodpecker, golden-crowned kinglet, and pygmy nuthatch. However, these measures are not included in the mitigation measures for "fish and wildlife protection" on pp. 24-25.	Colorado Wild et al.
Response:	**This is an error corrected in the Final EIS. Project design features on pages 24 and 25 of the DEIS are intended to maintain habitat, but no reasonable way to identify occupied nest territories for these species exists.**	
Comment:	Under the proposed action, the decrease in winter habitat for wild turkey would be mitigated by retention of thermal cover patches, roost sites, and trees on long slopes over 20 percent (p. 111). However, it is clear that turkeys need large trees (pp. 98-99), especially in winter (p. 109). As discussed previously, many large trees would be removed under the proposed action.	Colorado Wild et al.
Response:	**Some large trees will be removed under all action alternatives except D. The Preferred Alternative would retain adequate numbers of large trees to provide for these species.**	
Comment:	The Colorado Natural Heritage Program (CNHP) reports an occurrence of fringed myotis in the Ryan Quinlan area, near or in a proposed treatment area. This species is on Region 2's sensitive species list. The Forest Service should work with CNHP to ensure that populations of these rare species are not harmed as a result of Project implementation.	Colorado Wild et al.
Response:	**The BE in Appendix B of the DEIS describes the status of the sensitive wildlife species fringe-tailed myotis on page B-38. No effects on winter habitat, cave or mine roost habitat, or foraging habitat are expected from any alternative. Snags, trees with cavities, lightning struck trees, and large overstory trees would be retained for foraging habitat.**	

Comments Related to Effects on Fish and Wildlife		*Source*
Comment:	One mitigation measure on p. 24 addresses snag retention. It repeats the Forest Plan standard verbatim (*see* Forest Plan at III-12-13). However, it would be appropriate for this Project to exceed this standard by leaving more snags, especially large ones. It is our impression that the Project area generally is deficient in snags. This is consistent with the fact that most of the landscape is easily accessible and has been subject to firewood cutting, in which snags are often removed as soon as they appear, for many years. Some of the existing snags could be cut during thinning, in part because they can be hazardous to woods workers. Thus it makes sense to actively seek to retain a large number of snags because not all existing or future ones will remain on the landscape.	Colorado Wild et al.
Response:	**Design features are directed at maintaining snag levels specified in the Forest Plan. In addition, there is implementation monitoring (DEIS page 29) that addresses retention of snags. This mitigation includes review of sample cut areas (10 to 100 acres) before the larger project is implemented to make sure the marking guides are adequate. If there are problems with snag retention, marking guides will be adjusted.**	
Comment:	The ranking for sensitive species by alternative on p. 105 (repeated at B-31) shows that alternative D receives rankings as low as the no action alternative for most species. For goshawk, alternative D receives a 4 rating, while no action receives a 1 rating (1=best). This ranking is simply absurd. If no action would provide the best habitat for goshawk by retaining the current dense stand structure, then alternative D should have a rating no lower than 2, because it treats the least acreage of any action alternatives. (Table 3, p. 51). There is no explanation of why alternative D is worst for goshawk. Compare B-20 (affects on goshawk from the proposed action) with B-25 (same for alternative D). Similarly, flammulated owl receives a 4 rating and "ranks the lowest of the action alternatives for maintaining habitat for flammulated owl and is comparable to No Action" (p. B-25). This is another egregious misstatement because this species highly favor old growth ponderosa pine forests (pp. B-12-13), much more of which would be retained under alternative D.	Colorado Wild et al.
Response:	**The remaining potential for damaging wildfires was included as an indirect effect in the species rankings. Crown fires would affect goshawk and flammulated owl habitat to a greater extent. For example, based on the HABCAP model, the pre-Hayman habitat capability for goshawks was 86%. After Hayman, it dropped to 70%, a 16% decrease. The Proposed Action would decrease this value to 66%, but would result in less predicted wildfire damage. As discussed in the DEIS, retention of unnaturally high densities would not favor old growth development.**	
Comment:	The DEIS sets forth two sets of figures for road density in elk habitat on page 97. However, it is not clear how these figures are applied, as one set is for "areas intended to benefit elk summer range and retain high use," while the other is "[f]or areas where elk are a primary consideration". These goals sound similar, yet the second figure is almost three times as large as the first.	Colorado Wild et al.

Comments Related to Effects on Fish and Wildlife		*Source*
Response:	**Open road density categories displayed in the DEIS were determined by Christensen et al. (1993). The second category should be worded "[f]or areas where elk are one of the primary resource considerations." This is corrected in the FEIS. These figures were used to demonstrate that the project area makes only minor contributions to summer habitat effectiveness goals due to its high road densities.**	
Comment:	The numbers in Table 23 on p. 100 for the various canopy closure classes add to only 93%.	Colorado Wild et al.
Response:	**Conifer and aspen stands amount to 93% of the wildlife analysis area. The remaining 7% includes grass and shrublands that were not considered in Table 23.**	
Comment:	In Appendix B, Biological Evaluation for Wildlife, Threatened, Endangered and Sensitive Species, the Tiger Salamander and the Northern Leopard Frog are discussed. We think the threat to these species from road kill mortality is highly overstated. We base this on our frequency of observation of these species, and the fact that we have never observed one dead on a trail or a road. There may be a slight threat to an occasional individual, but it is doubtful there is any impact on the population as a whole from road kill.	Rampart Range Motorcycle Mgt Committee
Response:	**The analysis discussed the potential for road kill mortality to occur. There is evidence that in some cases there is a high degree of road kill mortality of amphibians. Maxell and Hokit (1999) and Maxell (2000) reviewed and summarized numerous studies that found large numbers of amphibians killed on roadways. Recently (July 2002) Glacier National Park officials closed a dirt road in the park for a few days until thousands of juvenile boreal toads migrated from ponds to upland areas. Road and trail densities were discussed for these amphibians as a way to compare the alternatives based on the potential for road kill mortality. This has not been documented to be a problem in the project area.**	

COMMENTS RELATED TO SENSITIVE PLANTS AND NOXIOUS WEEDS

Comments Related to Sensitive Plants and Noxious Weeds		*Source*
Comment:	The Division supports a monitoring and control program for noxious weeds within the project area.	Colorado Division of Wildlife
Response:	**The project includes design features and monitoring to respond to the noxious weed issue.**	
Comment:	It is not clear if the weed survey planned for the 2002 season was ever completed (p. 126). If it was, the results should be disclosed to the public in the FEIS. If not, it should be completed before any project implementation begins.	Colorado Wild et al.
Response:	**Noxious weed inventory was not completed in 2002. Page 25 of the DEIS notes that field surveys pre-and post-project are recommended to identify noxious weeds and provide for control and/or eradication.**	
Comment:	CNHP also reports that a population of Porter's feathergrass exists northwest of Woodland Park. This occurrence appears to be close to a proposed treatment area. A petition has been filed to list this species under the Endangered Species Act.	Colorado Wild et al.

Comments Related to Sensitive Plants and Noxious Weeds		*Source*
Response:	**This sensitive species is considered in the BE for Sensitive Plants (in Appendix A of the DEIS). The BE noted that this species has no documented occurrences within the project area, nor is any habitat potentially affected (the habitat is wetlands and peat bogs that, if they occurred in the project area, would be buffered in the Preferred Alternative). The closest known occurrence of this plant is approximately one to two miles southeast of the project area (adjacent to the south end of the Rampart Ridge area where little to no activity is included in the Preferred Alternative). If the petition to list results in a USFWS finding that listing is warranted and is proposed for listing by the USFWS, then an updated BA for Listed-Proposed species would be completed.**	

COMMENTS RELATED TO VISUAL RESOURCES AND RECREATION

Comments Related to Visual Resources and Recreation		*Source*
Comment:	Since 48 miles of "unclassified" (i.e., user-created) roads and trails would be used for access to treatment units (p. 22), areas already used by motorized users would surely become more open via the treatments, and thus invite additional off-road use. We appreciate the Forest Service's commitment to "rehabilitate" these roads (and the temporary roads constructed for the Project) after Project completion (ibid.), but with the very open forest created by the proposed heavy thinning, closing and obliterating these roads would still leave many areas in which motor vehicles would be free to travel without obstacles. It is important not to make the existing motorized vehicle situation worse via implementation of the Project.	Colorado Wild et al.
	We strongly recommend that the Forest Service immediately begin efforts to increase staffing in order to have sufficient law enforcement patrols in the Project area once Project implementation begins. We further recommend that visual screening be maintained around treatment units in addition to natural openings (*see* mitigation measures for recreation management, p. 26) in order to help deter illegal motorized use. Law enforcement patrolling and screening are most important in areas with slopes of 20% or more, as soil erosion caused by motor vehicle use would be greatest in these areas.	Colorado Wild et al.
	I urge you to please address the need for increased enforcement by the forest service, local law enforcement agencies and, if need be, trained volunteer groups to reduce the impacts of OHV use.	Kochis
	You are proposing to thin tens of thousands of acres in a dry (drought?) climate granitic soils are prone to gullying. Thinning will allow illegal driving anywhere. Travel restrictions and signage are totally ineffective. The single most effective control would be law enforcement. Secondary measures include fencing and leaving unthinned trees as a barrier along access roads.	Tiedt Larsen Kerr

Comments Related to Visual Resources and Recreation		*Source*
Response:	**The DEIS acknowledges that existing off-road vehicle use has adverse effects and that fuels reduction (heavy thinning) could increase areas available to off-road vehicle use. Page 26 of the DEIS describes mitigation measures to help reduce this potential. Monitoring described on page 29 would evaluate effectiveness of the mitigation measures and additional barriers would be placed as needed to discourage unwanted off-road use.** **The Pikes Peak Ranger District recently added law enforcement personnel (Bill Nelson, personal communication, 2003). Forest Service presence has been increased since the Hayman Fire, and would be increased as the Trout-West Project is implemented. Volunteers to monitor off road use and effects would be welcome (please contact Pikes Peak District Fire Management Officer, Mike Kerrigan at 719-477-4218).**	
Comment:	We have seen lots of primitive roads in forests that do not cause erosion problems, nor affect wildlife; we believe these effects are overstated. The ones that do cause erosion or affect wildlife are generally heavily traveled. The roads you are planning to remove would be little used and should not generally cause either of these problems. However, you must bear in mind that the more roads you close off, the more you concentrate forest visitors on the remaining roads, creating the very problems you are intending to address.	Rampart Range Motorcycle Mgt. Committee
Response:	**A Forest Service Roads Analysis was conducted and the condition of unclassified roads was evaluated. Page 15 of the DEIS states that recommendations from the roads analysis were carried into the project proposal. In many cases, the roads in question are causing erosion and contribute to unwanted consequences such as trash dumping. Open road density would not be significantly reduced following treatment (see Table 29 on page 104 of the DEIS).**	
Comment:	It was stated in several places that a rationale for eradicating these roads was to keep OHV'ers from using them. If closure is necessary, there are other, better methods available, such as signing, education and enforcement.	Rampart Range Motorcycle Mgt. Committee
	We also note in the DEIS that some unclassified roads and trails connect existing trails to ridges and apparently to overlooks. We would encourage inclusion of these roads and trails as classified spurs off main trails rather than eradicating them. While many OHV users simply want to ride and put on miles, some like to explore, and would use such spurs and enjoy the view. Such spurs, views, and opportunity to explore are what differentiate Forest trails from a motocross track. We would be willing to help identify some candidates in concert with your staff, if you so desire.	
	We suggest that some thought be given to creating vistas by carefully removing trees at selected high points, thereby opening up the view to those traveling the trail or road. For a small extra effort, a nice view experience can be created. We would be willing to help identify some locations and mark trees, etc in concert with your staff, if you so desire.	

Comments Related to Visual Resources and Recreation		*Source*
Response:	**Reducing open road density and rehabilitating unclassified roads would benefit soils, water quality, wildlife, and visual resources. Non-motorized recreation uses would also be enhanced. Signing, education, and enforcement will continue to be necessary even if unclassified roads are rehabilitated.** **This project would create many new views from ridge tops along FDR 300, 363, and 364. These roads would remain open in alternatives. Public participation in the site-specific design and implementation of this project is welcome.**	
Comment:	Other than quantitative charted values of trail mileage for the entire project, no detailed specific breakdown of planned trail closures, logical trail re-routing, or recreational trail development were offered in the Impact Statement. The project presents the valuable opportunity to leave the area with a planned sensible trail network far superior to the random existing unmaintained multi-generational and overused mix of classified, unclassified, and illegal trails. We, as part of the public would greatly appreciate being able to play an active part in determining and approving such a plan.	Metzger and Hanley
Response:	**In itself, this project is not a travel management plan. Existing roads were evaluated for fuels reduction project access. Some unclassified roads may be used to access the project and the project may provide opportunities to rehabilitate these roads, which is why rehabilitation of some unclassified roads is connected to the project. Additional travel management needs could be addressed in a separate NEPA document.** **Unclassified roads that might be used for the project and rehabilitated are shown on the project maps on pages 35 – 45. Detailed maps and data about road densities for each project area are in the analysis files.**	
Comment:	Visual Quality Objectives of retention and partial retention seem to be questionable when considering the forest conditions of the project and past catastrophic fires in the drainage as well as the historic forest condition. These objectives should be readdressed at the landscape scale for the project and designed into the selected alternative. At the landscape level, forest treatments can be designed to more closely meet historical forest conditions including openings, other resource needs, and visual quality.	Colorado State Forester
Response:	**The VQOs of Retention and Partial Retention were assigned to areas of high public use such as roads and campgrounds (i.e., US Highway 24, SH 67, and County Roads 5, 25, 51, and 78). In these zones management activities should not be visually evident or are visually subordinate.** **As stated in the DEIS, Alternative E would best meet the project goal of promoting sustainable, diverse forest conditions that are more like historic conditions. This alternative would likely require a Forest Plan amendment because the persistent openings would not meet current VQOs. The Preferred Alternative does not meet this goal as fully as Alternative E, but it does move the forest in that direction. The Preferred Alternative is expected to effectively reduce the potential for damaging crown wildfires, while remaining consistent with VQOs. Alternative E would also be less likely to achieve the project goal of social acceptance (see page 12).**	

Comments Related to Visual Resources and Recreation		*Source*
Comment:	If "increased off-road use" is recognized as something that is "potential," then by logic, it is not an "adverse affect" that can be defined as "unavoidable."	Metzger and Hanley
Response:	**Increased potential for off-road use may be an unavoidable consequence of thinning; however, actual use may not occur, given increased public awareness and other measures discussed in the EIS.**	

COMMENTS RELATED TO ECONOMICS

Comments Related to Economics		*Source*
Comment:	The cost of yarding of very small low value material, while thinning from below, by helicopter is just not reasonable nor is it happening in treating fuels hazards in Colorado. If money was no obstacle and the Forest Service had unlimited budgets then possibly. But that isn't the situation. Budgets are limited so economics play an important role in project design and implementation. There are so many other high priority areas along Colorado's front range where funding is needed. The project design along with the economics need to be totally revisited.	Colorado State Forester
Response:	**The relative cost of operation is included in the DEIS. Alternatives analyzed within the DEIS range in cost and effectiveness. Use of helicopters may be necessary to reduce biomass on areas too steep or inaccessible for tractors. Many of the areas proposed for helicopter yarding are in the wildland-urban interface near high-valued resources. Limited options exist to treat these sites. Burning without yarding may not be fully effective or may entail heightened risk from heavy fuel loads. Ground-based yarding may be unfeasible or would require more extensive road construction across steeper ground. This road construction was considered but not fully analyzed because Trout Creek is listed as impaired due to sediment and such road construction could unacceptably increase sediment delivery. Also, roads built across steeper terrain may be harder to rehabilitate.** **New technology that allows for mechanical fuels treatment without yarding may be used instead of helicopter harvesting in some areas. The adaptive management plan allows for integration of new technology if can effectively reduce the canopy density and meet Standards and Guidelines for soil disturbance. Sufficient tractor acreage is contained close to private property to begin implementation away from the more expensive, steeper areas. Some areas are already prescribed for on-site treatments; experiences in those stands could result in on-site prescriptions extended to helicopter areas.** **In terms of higher priorities elsewhere, land managers will likely have to compete for funding for the Trout-West Project, and other projects on other Ranger Districts or Forests may be completed first. This project is expected to compete favorably because of the need for action and high value resources at risk. The tractor, light thin, and on-site treatment areas will likely be funded and**	

Comments Related to Economics		*Source*
	implemented before the more complex and expensive areas.	
Comment:	The economic analysis does not indicate project planning, layout, designation or administration costs.	Colorado State Forester
Response:	**Project planning is a sunken cost for all alternatives. The economic analysis focused on the costs of operations, potential wood products value, and predicted wildfire losses estimated for each alternative. Layout and administration costs would follow a similar pattern as operations costs; alternatives that treat more acres would tend to cost more to administrate. Administration costs are unlikely to exceed 20% of the operations costs and could be offset by wood products sales.**	
Comment:	Economically, the Forest Service has not made any reference to data indicating that there is significant demand for any of the forest products generated by the sale, or that such demand cannot be met from timber harvest on private, state, or Indian lands in the area. Without such analysis, the sale cannot be justified economically.	Sierra Club et al.
Response:	**Sale of wood products is not one of the decision factors for the Trout-West project, nor is it part of the Purpose and Need for action. The fuels reduction work is needed regardless of the demand for the forest products that would be produced. Biomass would need to be disposed of in some way; burning, chipping, fuel wood sales, and sawlog sales are all possibilities. Fuels reduction projects across the Front Range of Colorado will likely generate wood products and a market could develop to accommodate the increased production. The FEIS includes supplemental analysis about the timber industry in the Front Range. The economic analysis does not rely on the sale of wood products, but some products will likely be sold.**	
Comment:	The project will damage social and economic uses and values associated with natural forests (including forests that are affected by beneficial natural disturbance) for the benefit of the timber industry, even though non-timber uses and values are far more important to local communities and the regional economy…We contend that a timber sale and all its associated activities can only exacerbate problems and result in more costs economically than benefits.	Sierra Club et al.
Response:	**Effects on non-timber uses and values were discussed in the Proposed Action. The No Action alternative would have the most serious impacts to social and economic uses and local communities due to the high probability of wildfire damage. This project is not designed to "benefit the timber industry." Alternatives that reduce Condition Class are likely to reduce wildfire costs.**	
Comment:	We are concerned with the adverse economic effects of commercial logging on public lands and the damage and loss of ecosystem service values associated with standing or otherwise intact forest ecosystems. The Forest Service's failure to quantify such effects at the project level or for the logging program as a whole is contrary to many federal and USFS regulations.	Sierra Club et al.
Response:	**The forest ecosystems in question should not be characterized as intact. The DEIS discloses that the existing condition differs from the historic condition. The No**	

Comments Related to Economics		*Source*
	Action alternative would have the most serious impacts to social and economic uses and local communities due to the high probability of wildfire damage.	
Comment:	We are concerned about the adverse economic and environmental effects of National Forest logging…logging as a restoration tool increases costs of water purification and filtration, decreases the value of private timberland, unfairly competes against fiber and alternative building material businesses, increases wildfire risk, increases [road] repair and maintenance costs…and decreases numbers of jobs in tourism, fisheries, recreation and alternative forest products.	Sierra Club et al.
Response:	**The Trout-West Project may result in some sediment delivery from operations, as disclosed in the DEIS Soil and Water section of Chapter Three. Wood products market conditions are addressed in the Economic Analysis, but actual effects are not known. Wildfire risk is not expected to increase as a result of alternatives that reduce Condition Class. No Action is associated with the greatest potential for wildfire damage. Road repair and maintenance costs are included in the economic analysis. Number of jobs in tourism, fisheries, and recreation would likely be more adversely affected by predicted wildfire. Alternative forest products may be generated by the Project.**	
Comment:	Lands with commercially viable timber are not those with the greatest wildfire risk.	Sierra Club et al.
Response:	**In the Trout-West area, potential for damaging wildfire comes from mature timber that may be sold as a project by-product. The need for canopy reduction is discussed throughout the document and is confirmed by the literature and input from several specialists. Yarding of the material is recommended because without yarding, either too much canopy will be retained or burning will be too hot and damaging.**	
Comment:	In the Trout-West DEIS, the Forest Service presents no evidence that the project is needed to meet any ecological or economic goal.	Sierra Club et al.
Response:	**The DEIS discusses the need for action and provides examples of the current potential for damaging wildfire. The DEIS discusses actions needed to reduce Condition Class across the area. The DEIS discloses some potential losses due to wildfire damage and estimates how effectively each alternative reduces those potential losses. The goal of the project is to reduce canopy density so that damaging crown fires are less likely and losses to private and public property and infrastructure, wildlife habitat, soils, and the Denver Municipal Watershed are reduced.**	
Comment:	Timber harvest must be the most financially efficient way of achieving the necessary vegetation management, that is, it produces the least net cost.	Sierra Club et al.
Response:	**The FEIS updates and corrects the financial efficiency analysis. The Proposed Action produces the least net cost of the action alternatives that treat sufficient acreage to reduce Condition Class and thereby achieve necessary vegetation management.**	
Comment:	The opportunity costs of the logging program, which include the value of uses forgone on areas logged plus the benefit associated with alternative uses of timber should be evaluated on a project basis.	Sierra Club et al.

Comments Related to Economics		*Source*
Response:	**Given the design features, the IDT does not predict any forgone uses or direct loss of resource values from any of the action alternatives. The potential losses from wildfire far exceed those predicted for the project.**	
Comment:	We request an impartial analysis of all values, both market and non-market associated with each alternative including the No Action and no commercial harvest alternatives. This includes employment and income associated with non-timber uses.	Sierra Club et al.
Response:	**An economic and financial efficiency analysis is included in the FEIS. Average employment and income is displayed for the counties affected by the project. This includes timber and non-timber employment. Loss of facilities, public and private property values, and wildlife habitat, and increased sediment delivery and downstream effects are most severe under No Action. Recreation and visual quality would be most adversely affected from wildfires under No Action.**	
Comment:	Finally, of particular concern to me as a forest consultant is the reduction in revenue that could be realized by my clients, private forest landowners, who are in proximity to the project and will be forced to compete for revenue with the project. Obviously, the size of the project will be much more cost-effective for private contractors and may result in an absence or at best result in a higher cost for private landowners to complete forest management activities.	Spaulding
Response:	**The Proposed Action and other action alternatives would create opportunities for private contractors and others. The project could be implemented in a variety of ways, including service contracts, stewardship contracts, firewood sales, and partnerships with private landowners. Many similar projects are needed across the Front Range and the western United States. Contractors would be expected to hire staff needed to complete the work. However, the demand for forest workers may exceed current capability and increase costs for the project or adjacent work.**	
Comment:	I think the economic return figures are not realistic. If I were to assume that the project would have a life of ten years, that would result in an annual treatment level of over 2,000 acres per year with an average timber sale revenue of over $400,000 per year. Based upon the Fiscal Year 2000 Monitoring Report, the revenues for the entire forest per FY99 under timber sales was $33,442 and a treatment of 700 acres. The highest level of timber sale revenue was reached in 1996 and it was only $179,000. There has not been a harvest reaching the 2,000-acre level since 1994. At an average of $400,000 per year, this would be more revenue from timber sales than was collected in FY96 - FY 99 inclusive. Such an action will flood the poor market that currently exists and should reduce the average value of any forest products, particularly sawlogs.	Spaulding
Response:	**The Forest Service recognizes that the National Fire Plan, 10-Year Comprehensive Plan, and the Healthy Forests Initiative will increase activity as compared to the recent past. An increase in Forest capacity to implement the work will be needed. The EIS is the first step in securing funding and personnel to complete the work. Other projects such as Trout-West are being planned throughout the western United States. A market is likely to develop to deal with the biomass produced. Even if no sawlogs were sold, the project would be needed to reduce hazardous**	

Comments Related to Economics		*Source*
	fuels. The FEIS economic analysis does not include estimates for a return from sawlog sales. Biomass may be used for other purposes such as chips or fuelwood.	
Comment:	Some $2 million of planned logging expense is devoted to gaining access to the area. Once the roads are in place, if they are allowed to remain they allow easy access for managing the forest and make it much more cost effective to make subsequent selective cuts when needed. They also facilitate controlled burns and fire fighting. The same is true for unclassified roads, some of which are old logging roads.	Rampart Range Motorcycle Mgt Committee
	We appreciate that the Forest Service is motivated to have all it's roads up to a particular standard. Also, there are many miles of roads and limited resources, which must be spread over many diverse needs. These financial pressures provide a rationale to eradicate substandard roads. We suggest that a less costly standard should be applied to these little used roads, so they can be preserved for when they are needed. This might be thought of as an inactive road bank. Simply seed them in grass, and leave them be. While it is quite easy to eradicate a road, there is a large regulatory and paperwork burden to creating one. As taxpayers, we hate to see our money spent in this manner if it can be avoided. We feel all forest roads are capital assets, and should be eradicated only in extreme situations. Letting them lie fallow, and perhaps clearing them of saplings every few years costs little, and preserves a resource which can be beneficial when access is required, often on short notice (such as a fire).	Rampart Range Motorcycle Mgt Committee
	During each and every public meeting with the incident commander during the uncontrolled phase of Hayman, we were told repeatedly that the reason the southeast flank of the fire could not be addressed was due to the lack of road access. To have built roads into this treatment area and then destroy them is not acceptable. The roads should be constructed in such a manner that they can be locked down and designated as a fire access road, not open to the public.	McClelland
Response:	**The roads analysis conducted by the Forest Service considered the location and condition of unclassified roads. Most unclassified roads in the area are not suitable or safe for operational use. They are not in strategic locations for fire or forest management.** **Streams within the watershed are listed as impaired from accelerated sediment delivery. Unclassified roads have a higher potential to deliver sediment than roads designed or constructed to specifications.** **The DEIS noted the degraded condition of the watershed relative to high road density and off-road vehicle use. High road densities have adverse effects on soils and water, wildlife, visual quality, and recreation. High road densities can increase rate of spread of noxious weeds.** **The amount of road maintenance and other management costs that would be needed to retain these roads through time, along with the adverse effects of "leaving them be" outweighs the costs of reconstruction and rehabilitation.**	

Comments Related to Economics		*Source*
Comment:	We reject the No Action alternative. Since Hayman has already cost $38 million, we believe the estimate of $240 million wildfire costs is extremely low. Something must be done, and soon. If nothing is done, we believe there is a near 100% probability the entire area will burn badly in the next few years.	Rampart Range Motorcycle Mgt Committee
Response:	**The DEIS analysis concurs with the contention that "something must be done" and that there is a near 100% probability that the area will burn under No Action. The economic analysis used information gathered from a variety of sources applied to each alternative. It displays relative, rather than absolute values.**	

COMMENTS RELATED TO HERITAGE RESOURCES

Comments Related to Heritage Resources		*Source*
Comment:	Where are the historic and prehistoric sites located and how will they be protected?	Doering
Response:	**Heritage sites are located throughout the project area. In most cases, sensitive sites would be avoided in the operation unless the work is compatible with the type of site. Locations of heritage sites are not disclosed to the public to prevent loss of their integrity.**	

COMMENTS RELATED TO CUMULATIVE EFFECTS

Comments Related to Cumulative Effects		
Comment:	The proposed project is intended to facilitate future fire suppression actions. The document should not fail to analyze and disclose the cumulative environmental effects of fire suppression activities within and adjacent to proposed treatment sites. These activities include: tree cutting, soil disturbance, chemical dumping, burning operations, and many others.	Sierra Club et al.
Response:	**Fire suppression actions would continue under all alternatives in the Trout-West Project. Fire suppression in the area could have environmental effects – firelines are dug to contain the fire, vegetation may be cut, prescribed burning may occur, and roads may be opened to access the wildland fire. Fire suppression activities occur during the emergency itself and by its nature cannot include as many mitigation measures as a project operating in normal circumstances. The effects analysis associated with wildfire damage include the adverse effects of fire suppression (i.e., erosion estimates include fire lines and other disturbance).** **Under action alternatives that effectively reduce fuel hazard, fire suppression activities would likely be less intense than under alternatives that do not effectively reduce fuel hazard. Crown fires would be slowed in the more open treated areas. Treated areas would provide firefighters better opportunities to contain the fire. Less acres are likely to burn in a damaging fashion, and therefore less acreage would likely be disturbed through fire suppression.**	

Comments Related to Cumulative Effects		
Comment:	It may have been premature to include a cumulative effects analysis of the Hayman Salvage Project when the DEIS was initially drafted, it is imperative to do so now. As the Hayman Salvage Project was scoped in December of 2002 and a draft environmental assessment is now expected in March of 2003 (personal communication with Pat Hessenflow), this project is now "reasonably foreseeable" pursuant to 40 C.F.R. § 1508.7. As such, it is mandatory that the FEIS's cumulative effects analysis consider and analyze this Project's impacts alongside those likely to flow from implementation of the Hayman Salvage Project.	Colorado Wild et al.
Response:	**The Hayman Fire Salvage Environmental Assessment has been released and the Preferred Alternative (3) identified. The IDT considered the effects of the salvage within the Trout and West Creek watersheds in the FEIS cumulative effects analyses. In general, the effects of the salvage are relatively minor in comparison to the effects of the fire already included in the analysis.**	

COMMENTS RELATED TO ALTERNATIVES CONSIDERED AND PREFERRED

	Comments Related to Alternatives Considered and Preferred	*Source*
Comment:	We recommend that the Forest Service change the proposed action to one that thins more strategically. Alternative D remains the best alternative in this regard.	Colorado Wild et al.
	Alternatives B & D only treat areas near homes. These proposals would do nothing to save the forest, and wouldn't protect the homes very well. The only thing these proposals do is quiet the fears of homeowners that don't know any better. These proposals appear to be an offering to appease those misguided activists who want the forests to remain unmanaged, unused, and devoid of people so they might become wilderness. We reject Alternatives B and D.	Rampart Range Motorcycle Mgt. Committee
	Alternative E is similar to the Proposed Alternative, except more area is treated. It is probably what should be done in a perfect world. However, amendments to the Forest Plan would delay this action for several more years, and by then there well might be no forest left. Plan E might turn in to the No Action alternative. So we recommend that when the Forest Plan is next changed, Alternative E considerations be incorporated into it, but Alternative E should not be pursued at this time.	Rampart Range Motorcycle Mgt. Committee Moore
	I would prefer Alternative E but will support the Proposed Action.	Liederitz
Response:	**The decision maker will provide rationale in the Record of Decision. The decision maker may choose any option within the range of the alternatives considered in the EIS.**	
Comment:	We favor Alternative A because of our concerns about a fire escaping control.	Babcock

	Comments Related to Alternatives Considered and Preferred	*Source*
	I prefer Alternative A. If we were not in the midst of a drought, burns would be acceptable, but I know of times when they got out of control during dry conditions. Please, no burns.	Kerr Matney Cox Grant Blaisdell Vanderpool
	EPA supports the use of prescribed fire to mimic the role of fire in the ecosystem.	EPA
	We feel controlled burns, managed properly are a safe and cost effective tool for fuels reduction. These forests contain too much fuel, to haul it all off cost effectively. We also feel a controlled burn does a better job of "refreshing" the forest than purely mechanical fuel removal. In a warmer, damper climate where things decompose faster, Alternative A might be an OK, though expensive, choice, but we feel it is inferior to the Proposed Action in Colorado.	Rampart Range Motorcycle Mgt Committee
Response:	**The Preferred Alternative is the Proposed Action. The DEIS notes that prescribed burning is associated with inherent risks, but also has specific ecological benefits. As discussed throughout this Response to Comments Appendix, the effectiveness of the project is dependent on treatment of surface fuels following mechanical thinning. Controlled burning was a key part of successful fuels reduction projects noted in research such as Omi and Pollett (2002) and lessons learned from the Hayman Fire. The thinning operation would reduce the amount of biomass to be burned through yarding and other mechanical methods. Safety of controlled burning would be considered in the treatment design. Public and worker safety is an extremely high priority for the Forest Service.**	
Comment:	The EIS prepared for the Trout-West Project must address an alternative that encourages private landowners to take actions to reduce fire risk on their own lands. This alternative is not only reasonable, but according to the Forest Service's own research, such an alternative has the highest likelihood of accomplishing project objectives at the least cost. In this alternative, instead of implementing a logging project on national forest lands, the Forest Service would lend technical and financial assistance to private landowners to clear vegetation from the immediate vicinity of structures, replace flammable building materials, and take other actions to effectively reduce the risk of fire caused damage to homes and structures.	Sierra Club et al.
Response:	**All alternatives in the EIS encourage landowners to reduce fire hazard on their lands. The Forest Service, in conjunction with the State Forest Service and other entities, could lend technical and financial assistance as part of the good neighbor program. These actions alone would fail to reduce potential for crown fire within the wildland-urban interface and adjacent municipal watershed.**	
Comment:	Project Goals address sustainable, diverse forest conditions, more like historical conditions. Alternative E modified would be better than the Preferred Action and comes closer to project goals of restored forest condition.	Colorado State Forester

	Comments Related to Alternatives Considered and Preferred	*Source*
Response:	**The DEIS indicated that Alternative E would come closer to the project goal of restoring historic conditions. The decision maker will weigh these and other public comments and determine whether to select the Preferred Alternative or another alternative within the range considered in the EIS.**	
Comment:	We recommend using a combination of the preferred alternative and alternative E be developed that bring in the use of openings but not necessarily to the criteria of a set 30% of pine stands - 15% of fir. The total landscape needs to be re-looked at using fuel breaks, which could account for some openings as well as removal of the high cost helicopter yarding. This Alternative could restore the forest much closer to its historical condition, be a least cost option, and develop much more sustainable conditions. If Alternative E was designed from a landscape level to meet goals as well as come close to Forest Plan direction it would more closely approximates historical forest condition. The alternative described in the DEIS appears to be one that was intended to not be implemented from the very beginning. Redesign Alternative E to be more consistent with Forest Plan direction. The prescription for Alternative E could maintain areas for thermal cover. However, a Forest Plan Amendment may also be needed, as was the case for the Upper South Platte Project.	Colorado State Forester
Response:	**Alternative E did not include some elements of Forest Plan direction, including deer and elk thermal cover retention and riparian buffers. Persistent openings in Alternative E would also not follow Forest Plan direction. Indeed, the historic condition would not have met Forest Plan direction.** **Alternative E was designed to approximate historic forest conditions. If selected in total, Forest Plan amendments would be necessary.** **The Forest Service could also choose to implement a blend of Alternative E with other alternatives. As noted in these comments, such an alternative would combine elements of the EIS alternatives.** **The Forest Supervisor's rationale will be documented in the Record of Decision. The Forest Supervisor will consider these and other public comments in arriving at a decision.**	

	Comments Related to Alternatives Considered and Preferred	*Source*
Comment:	We request that a no-harvest, restoration only alternative, one emphasizing natural disturbance processes, be developed and given fair and adequate consideration. The EIS must address a no-harvest restoration alternative that implements prescribed burning, snag recruitment, waterhole construction, placement of nest boxes, and road obliteration alone, without commercial timber harvest. The purpose and need of the project can be met more efficiently through means other than commercial timber harvest and those means must be given unbiased attention. Such a no-harvest, restoration alternative is not analogous to the no-action alternative. The project should be limited to controlled fire and limited removal of already dead trees and those with beetles in them (which will die soon). The latter treatments should not allow removal of all dead and dying trees (some are needed for wildlife and to decay into new soil) and should be concentrated where people congregate, i.e., where falling trees might be a safety hazard, such as campgrounds, trailheads, and along open roads. Consideration of such a non-harvest alternative is especially important in situations, such as the Trout West Project, where there is no demand for the wood products that will be generated under the logging alternatives, and where logging is financially inefficient.	Sierra Club et al.
Response:	**The Trout-West Project is not a commercial timber harvest project. It is a fuels reduction project and yarding is considered necessary in most stands to effectively reduce potential for crown fire. A no-yarding alternative was considered (DEIS page 47), but eliminated from detailed study because it would require extensive burning with unacceptable risks to the watershed as a whole. Live trees would both need to be removed to meet canopy reduction goals.**	
Comment:	We request that an alternative be developed without temporary roads.	Sierra Club et al.
Response:	**Alternatives C and D were developed to avoid construction of temporary roads.**	

COMMENTS RELATED TO PROJECT IMPLEMENTATION

Comments Related to Project Implementation		*Source*
Comment:	How can the public be involved with implementation?	Doering
Response:	**Please contact District Fire Management Officer, Mike Kerrigan at 719-477-4218 if you are interested in being involved with implementation. The DEIS includes a design feature to respond to neighbor concerns identified as part of implementation and to encourage and provide opportunities for continued citizen involvement in monitoring and adaptive management. The public can help in many ways, including raising local awareness about the project and its mission, monitoring effects on off-road vehicle use, providing input to stand-level prescriptions, and helping to monitor to ensure that the project is implemented as designed.**	

Comments Related to Project Implementation		*Source*
Comment:	When is the project expected to begin? How long will it last? The project should be implemented in a five to seven year time frame. If 20% of the original project was treated by the Hayman burn and the total acreage has been reduced, why will it still take ten years to complete? In my mind, if you removed 20% of the area from a ten-year plan, it should take something like eight years to treat the balance.	Haskins Colorado State Forester McClelland
Response:	**The project is expected to begin as soon as funding is available (likely FY 2004). It may take up to 10 years to fully complete. It may be completed more quickly depending on funding, priorities, and weather conditions.**	
Comment:	The recent experience on past fires indicates that fuels treatment is needed to protect property and lives (both landowners and firefighters). Private land owners need to be encouraged to treat their lands as well. To meet the objectives of the National Fire Plan and this project the federal manager needs to make the final call on what treatments are necessary around private lands, after getting input of the land owner. We expect the respect of one-on-one consultation and participation in regard to the actions taken within the 600' boundary buffer as defined in the Impact Statement. We would desire to participate and cooperate to ensure that the portions of forested area on our property are appropriately addressed as being part of the overall project area. In addition we would be willing to serve in a role of community coordinator to work with neighboring private property owners toward achieving the same goal.	Colorado State Forester Metzger and Hanley
Response:	**Private landowners are strongly encouraged to contact the Colorado State Forest Service and the Forest Service to seek ways to begin a fuels reduction program on their respective land holdings. This may lead to cooperative efforts in obtaining similar treatment on private lands. The Forest Service would have the final say about treatments on Federal land adjacent to private property, considering landowner concerns.**	
Comment:	Our existing water well is of the groundwater spring-fed, shallow type. It is less than 20 feet in depth, less than 200 feet from the National Forest boundary, and is a part of the Ryan Gulch drainage. What part of the project plan guarantees that proposed action directly upstream will be initiated with regards to the potential of that portion of the drainage system? We would expect and appreciate the respect of one-on-one consultation in this matter as defined in the *Decision Framework* section of Chapter 1 of the Impact Statement.	Metzger and Hanley
Response:	**The Forest Service intends to discuss project specifics with neighbors as a part of implementation.**	
Comment:	Is it possible to get the assistance of Boy/Girl Scouts and younger neighbors to help the Forest Service in this effort?	Trench

Comments Related to Project Implementation		*Source*
Response:	**The Forest Service welcomes volunteerism. The challenge is protecting public and volunteer safety during operations. Many opportunities for partnership and community involvement could arise with the Trout-West Project. Please contact District Fire Management Officer, Mike Kerrigan at 719-477-4218 for more information.**	
Comment:	If a controlled burn is being conducted adjacent to private property, I would like to see a process whereby the private [property] could be included in controlled burn if they have prepared for it and have been certified in some form by the team conducting the burn.	McClelland
Response:	**The Forest Service follows strict rules to protect public and worker safety. Volunteers may be helpful if they have the experience and fitness level required. Please contact District Fire Management Officer, Mike Kerrigan at 719-477-4218 for more information.**	
Comment:	Leave logs in accessible places for firewood.	Kerr
Response:	**Firewood will be made available as a by-product of this operation. A variety of methods could be implemented including commercial firewood sales and personal use permits.**	
Comment:	Given the Forest Service's current and foreseeable budgets, we emphasize the need for the FEIS to address whether sufficient money is, or will become, available to treat weeds in the Project area before, during, and after implementation of the Project, which is assumed to take 10 years (p. 14). The agency must disclose the likelihood of funding for weed control. If the Project were to proceed without sufficient weed treatment, the costs of such treatment would rise for both private and state lands.	Colorado Wild et al.
	The Environmental Impact Statement does not address the possibility that over time, portions of the project might be completed to a partial point upon which budget and time limits prevent the balance of the project from ever being completed. We would like to see proof of commitment that once commenced, the project will be seen through to completion.	Metzger and Hanley
Response:	**The Forest Service cannot predict the likelihood of whether sufficient funding will be available to complete any or all aspects of the project. Too many factors contribute to funding mechanisms. However, without a NEPA decision, the chances for funding are slim.** **Noxious weed control is one of the important issues discussed in the DEIS. The DEIS acknowledged that the long term cumulative impacts are dependent on how effective noxious weed inventory and control measures are within and outside National Forest lands.**	
Comment:	Homeowners support the proposed actions in the Ridgewood area. We hope Ridgewood would be considered for first priority treatment. Our homeowners have been very proactive in defensible apace.	Ridgewood Home-owners Assoc.

Comments Related to Project Implementation		*Source*
	Treat the urban/wildland interface first. Treat the area within ¼ to ½ mile of private land first.	Stocker Lien Fouke Prendergast Bennett Batchelder Herb Thompson
	This Project's first priority for treatment should be the lands nearest concentrations of residences, including subdivisions and the Town of Woodland Park. The values potentially at risk from catastrophic fire, including the lives and safety of humans, are greatest in these areas.	Colorado Wild et al.
Response:	**The Forest Service will use the following criteria to determine the relative priority for treatment:** **1) Accessibility and strategic importance for fire suppression.** **2) Condition of adjacent lands and willingness of neighbors/partners to reduce hazardous fuels on adjacent lands.** **3) Prior investment into "Good Neighbor Agreement" between Federal, State, and local entities.** **The Ridgewood Area would rank relatively high using these criteria. The Manitou Experimental Forest is in the Ridgewood Area. Research considerations would also be factored into the timing and site-specific prescriptions for treatments within the Experimental Forest. The Record of Decision discusses treatment priorities and scheduling.** **Private landowners are strongly encouraged to contact the Colorado State Forest Service and the Forest Service to seek ways to begin a fuels reduction program on their respective land holdings. This may lead to cooperative efforts in obtaining similar treatment on private lands.**	

MISCELLANEOUS OTHER COMMENTS

Miscellaneous Other Comments		
Comment:	We do not see any figures identifying how much of the project area is in each [prescribed burning zone] zone defined in the DEIS, nor how much of the proposed treatment is slated to occur in each of these zones.	Colorado Wild et al.
Response:	**All alternatives would treat 2,910 acres within 600 feet of private land. The Proposed Action, and Alternatives A, B and C, treat an additional 10,660 acres within 1 mile of private land. Alternative D treats an additional 3,840 acres within 1 mile of private land. The Proposed Action and Alternatives A and C would treat about 6,600 acres further than 1 mile from private land. Alternative E would treat 3,410 acres within 600 feet of private land, an additional 13,500 acres within 1 mile of private land, and 9,410 acres further than 1 mile from private land. This information is displayed in the Table 3 of the DEIS.**	
Comment:	Table 3 includes a line for the "acres proposed for pile and broadcast burning." DEIS, at p. 52. Why are these two very different items lumped together? Notably, the DEIS's descriptions of alternatives lists these items separately. Similarly, the Table on page 51 of the DEIS includes a separate line for pile burning.	Colorado Wild et al.
Response:	**Table 3 is corrected in the FEIS. Pile burning is recommended within 1 mile of private land, and broadcast or underburning is recommended further than 1 mile from private land. Actual burning methods are subject to adaptive management depending on site-specific conditions, adjacent landowner input, and monitoring information.**	
Comment:	We congratulate the Forest Service Team on a job well done on the EIS and their presentation in Woodland Park. We fully support the project, and all thinning methods including helicopter, mechanical and prescribed burning.	Settler
	In general, I am very satisfied with the work you put into the DEIS. I am happy to see that you addressed the very critical need to maintain diversity within the stands, both in terms of age and tree species, the need to protect riparian zones, the plan to stagger thinning throughout the project area in an effort to maintain higher densities in some area while creating park like areas in others, and the (very important) emphasis on reclamation of both temporary and illegal roads within the project area. Good work.	Kochis
	As an impacted Red Zone resident in Perry Park, Larkspur, Colorado (evacuated community, Hayman Fire 2002), I strongly encourage the US Forest Service to proceed immediately with the proposed plan. I have reviewed the documents on-line and found the Trout-West Project to be an example of true ecosystem restoration. I applaud you and your colleagues for taking on this vast restoration project.	Worley
	The Trout-West Project DEIS is a well-done document and I generally support the project.	Tiedt
Response:	**Thank you for your comments. The Rationale for selection of the Proposed Action is in the Record of Decision.**	

Miscellaneous Other Comments		
Comment:	EPA generally favors alternatives that minimize road miles. We agree that the decision to decommission and rehabilitate roads associated with this project will help get the Forest closer to reducing road densities and the impacts of unclassified roads	EPA
	Close and obliterate all illegally created roads after treatments are finished, as proposed.	Lien
	We strongly encourage the goal of reducing road densities. We suggest that temporary roads be rehabilitated with native species immediately after timber harvest operations are complete. We recommend erosion control measures be taken until rehabilitation can be adequately accomplished. We recommend monitoring of reclaimed roads to ensure proper vegetation establishment.	Colorado Division of Wildlife
Response:	**The Preferred Alternative would rehabilitate unclassified roads and reclaim temporary roads created by the operation.**	
Comment:	Consider treating existing slash along utility lines.	Robinson
Response:	**Treatments within the project area would deal with existing and created ground fuels. Utility corridors would be treated in cooperation with the utility company.**	
Comment:	Is there a way to get long term funding rather than annual budgets?	Blakesley
Response:	**Several multi-year funding mechanisms are available. This project could be implemented as a long-term stewardship agreement that would span several years. The project may also be divided into smaller projects funded separately. The Forest Service will pursue multiple funding opportunities to implement the project.**	
Comment:	Has the Forest Service considered using community based planning similar to the San Juan Ridge, Folsom, California?	Blakesley
Response:	**The Trout-West Project did not utilize a community based planning approach similar to that which occurred in Folsom, California. The San Juan Ridge Project (also known as *'Inimim* – an Indian name for ponderosa pine) was spearheaded by two groups of residents: the Yuba Watershed Institute and the Timber Framer's Guild of North America. The two groups worked together to influence the management of the federal (Bureau of Land Management) lands surrounding their private properties. In essence, the groups produced their own management plan, which was then subjected to the NEPA process by the Bureau of Land Management. In 1995, a modified plan was adopted.** **Residents interested in this process may contact District Fire Management Officer, Mike Kerrigan at 719-477-4218 to discuss further opportunities for citizen involvement in project planning. A description of the 'Inimim Forest community-based effort may be found on the internet at http://www.ca.blm.gov/folsom/inimim.html.**	
Comment:	We recommend that the FEIS designate a minimum schedule for monitoring. The project will be implemented in stages. At a minimum, monitoring must be completed for one stage before progressing to the next.	EPA
Response:	**The Proposed Action includes a monitoring plan to allow for adaptive management. Longer-term research opportunities exist within the Manitou Experimental Forest.**	

LETTERS FROM AGENCIES ATTACHED IN FULL

- **U.S. Environmental Protection Agency (EPA)**
- **Colorado Division of Wildlife**
- **Colorado State Forester**
- **U.S. Department of Interior – Office of Environmental Protection and Compliance**
- **U.S. Department of Housing and Urban Development**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 300
DENVER, COLORADO 80202-2466

REF: EPR-N

MAR 3 2003

Rochelle Desser/
Jackie Ringulet
USDA Forest Service
PO Box 440
Grants Pass, OR 97528

Re: Trout-West Hazardous Fuels Reduction Project
Draft Environmental Impact Statement, Pike & San
Isabel National Forests, Pikes Peak Ranger District

Dear Ms. Desser and Ms. Ringulet:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Region 8 Office of the United States Environmental Protection Agency (EPA) has reviewed the *Trout-West Hazardous Fuels Reduction Project Draft Environmental Impact Statement* (Project) for the Pike & San Isabel National Forests, Pikes Peak Ranger District, dated December 2002.

We appreciate the site specificity and the proposed mitigation in the analysis. We have a few concerns and recommendations related to mitigation measures, monitoring schedules and adaptive management, the inclusion of landscape-level information in the purpose and need discussion, roads, erosion and impacts to streams that we hope will be useful to you as you complete the next stage of the analysis.

In order to re-establish historic fuel conditions, reduce the risk of catastrophic wildfire and improve firefighter safety within the Trout and West Creek watersheds, the USFS proposes to thin and administer prescribed burning over 75% of the forested landscape in the Project area. In the proposed action, 33% (6,750 acres) of the fuels treatment would occur within the half-mile urban interface zone, and 66% (13,4000 acres) of fuels treatment is outside the urban interface zone. The approximately 20,000 acres identified for treatment in the Project Area include four vegetation types. Twenty-two percent of these 20,000 acres are undulating ponderosa pine vegetation type; 4% are low-elevation southern-aspect ponderosa pine; 3% are low-elevation northern-aspect ponderosa pine/ Douglas fir; and 71% are high-elevation mixed conifer (ponderosa pine/ aspen/ Douglas fir/ spruce/ lodgepole pine). Sixty-eight miles of roads would facilitate this action over a 10-year time-span, including 14 miles of temporary and 48 miles of

existing non-system roads. These roads will be reclaimed to a near-natural condition after their use for this Project is expired.

Site Specific Analysis

We appreciate that the analysis and alternatives for this Project were generated specifically for the Trout and West watersheds. The Fire Regime Condition Class (Hann and Strohm 2002[1]) studies for the analysis area and the ensuing site-specific treatments were designed particularly to address vegetation management goals in this already impacted region of the Forest. The methodology behind this analysis is new and complex, and we have numerous questions beyond the scope of the review of this Project regarding the Fire Regime Condition Class methodology and its assumptions. If this methodology is likely to be used beyond this Project, we would like the opportunity to better understand it. Please contact us with the name of the USFS official with whom we could discuss this approach to improve our understanding.

According to the DEIS the preferred functioning condition of the ecosystems include wildland-urban interface, as both private residences and recreation, and use for Denver municipal water supply. Because this area is already impacted through various human uses, we recognize that it is not likely that full restoration of historic ecological processes is either desired or possible. The DEIS appropriately concentrates on the relevant mix of the area's uniqueness and the human-use management designations and has developed Alternatives with these goals in mind.

Mitigation Measures

We also appreciate the mitigation generally included as part of every Alternative that reduce impacts to the sensitive ecosystem attributes within the Project area (DEIS pp. 22-27). Many of the mitigation measures address several of the concerns outlined in our scoping letter (2/8/02), and we appreciate the special attention to weeds, smoke management, off-road motorized and mechanized recreation, road construction and de-construction.

We recognize the efforts that will be taken to implement weed control procedures to avoid potential spread to unaffected areas, especially where increased sunlight and disturbed soils result from Project implementation.

EPA supports the use of prescribed fire to mimic the historic role of fire in the ecosystem. We recognize that a Smoke Management Plan will be required and the Alternatives are consistent with existing air quality precepts, including the Colorado Smoke Management MOU, the Clean Air Act, Colorado Air Quality Control Commission Regulation 9, and USFS regulations, guidelines and permits (DEIS p. 129).

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[1]Hann, W. J. and D. J. Strohm. 2002. Fire regime condition class and associated data for fire and fuels planning: methods and applications. *In* Omi, P. and L. A. Joyce, *eds.* Fire, Fuel Treatments, and Ecological Restoration: Conference Proceedings, April 16-18, 2002 Ft. Collins, CO. USDA Forest Service, *in press* RMRS-P-XX.

Regarding OHV use in the area, we understand that use and corresponding impacts are increasing, and appreciate that the USFS is taking steps to minimize recreational attractiveness of areas not designated for use through buffers, barriers, closures, monitoring and Project timing.

Finally, we agree that the decision to decommission and rehabilitate all roads associated with this Project will help the Forest get closer to reducing road densities and the impacts of unclassified roads.

Recommendations

EPA has several questions and recommendations with this Project related to mitigation measures, adaptive management and monitoring schedules, the inclusion of landscape-level information in the purpose and need discussion, sedimentation and roads. Thinning may be beneficial for fire management; however, since this is relatively new science and effectiveness is not fully proven, we support adaptive management as a tool for managing fuels in these areas. Large-scale thinning operations may have significant environmental impacts such as erosion and sedimentation to streams, disruption of landscape-level ecological processes and habitat fragmentation associated with thinning and road building.

Mitigation Measures

- Please describe in the FEIS what is meant by "vary stand level prescriptions to mimic natural variability" as a "Forest and Stand Conditions/ Design Feature Mitigation" (DEIS p. 23). What will this look like on the ground? If possible, please include a simple, conceptual diagram that illustrates this strategy versus the goal of reducing canopy closure to 15-25%, removing ladder fuels, leaving the largest trees and varying stand density and canopy closure. It is our understanding that, historically in the higher elevation mixed conifer sites, density increases with elevation and closed canopies where present (Veblen 2000[2]).

- Although it is stated in the DEIS that older trees in mature stands will be left in all alternatives to help retain old-growth characteristics (DEIS p. 70), as stated in our scoping comments, we support an appropriate, meaningful diameter limit (as proposed but not quantified in Alternative D) in all treatment areas in order to reduce public concerns regarding the protection of large trees in this ecosystem. This limit can help assure the elasticity of the ecosystem mosaic rather than limiting designated old-growth potential areas to static boundaries and increasing vulnerability to stochastic, pest, use or other mortality. Especially because trees under 150 years old are under-represented in the Front Range ponderosa pine

[2] Veblen, T. T, Brown, P. M., and J. Donnegan. *Draft* 2000. Historical range of variability assessment for forest vegetation of the Pike and San Isabel National Forests of Colorado. USDA Forest Service/ University of Colorado, Boulder Agreement Number 1102-0001-99-033

habitat (Veblen 2000), limiting old-growth potential to designated areas could risk losing those valuable ecosystems through random disturbances.

Monitoring and Adaptive Management

- We recommend that the FEIS designate a minimum schedule for implementation monitoring (DEIS p. 28). We understand that this Project is intended to be implemented in stages. For each phase to improve based on the lessons learned in the previous step, monitoring must first be completed and analyzed to fully understand the effectiveness of the treatments used. We recommend that these stages be clearly defined and, at minimum, all monitoring be completed before entering a new stage.

Purpose and Need/ Risk Characterization

- Please describe the effect that adjacent analysis polygons within treatment areas (Hann and Strohm 2002) will have on the risk of ignition and perpetuation of fire on each other, and whether condition classes are affected by landscape attributes. While stand-level (polygon) descriptions of vegetation types, historical variability and fuel loads definitely increase the understanding appropriate stand-level prescriptions and individual risk, it does not appear that the condition class descriptions account for the effects local areas have on each other within the Trout-West landscape. For example, could one area block the movement of fire into another, thereby reducing the risk of a large-scale fire? As winds are predominantly from the south and west (DEIS p. 129), and the Hayman Fire has already consumed much of the available fuels in the extended landscape (especially to the west), does this affect the analysis of risk for uncontrollable wildfire in the analysis area? It appears that the Hayman Fire was incorporated into the WEPP model (DEIS p. 86), but it was unclear whether it was included in similar fashion into the risk and Fuels Condition Class analyses.

- In the Cumulative Effects discussion for each alternative, although the Hayman Fire is referred to generally, the effects of the fire are not considered regarding risk reduction and fuel hazard (DEIS p.65-67). Please include a discussion on how the fuels consumed by the Hayman Fire might effect the analysis area fire potential..

20- Year Effectiveness

- The DEIS states that the proposed treatment will effectively meet the purpose and need for approximately 20 years (DEIS p.63) On site visits to similar projects USFS experts have indicated treatment effectiveness periods of significantly less than 20 years. Often when the canopy is opened up, increased light and available moisture can spur vigorous growth on the forest floor. In the FEIS, please describe the basis for the 20 year effectiveness reference, and any qualifiers to that projection. For example, considering the adapted nature of ponderosa pine to this

Front Range ecosystem would this estimate change in years with greater moisture availability or further drought?

Sediment Control/ Erosion Potential/ Roads

- One of the goals of this Project is to reduce risk of stream sedimentation and impacts to municipal water quality (DEIS p. 12). According to the Water Erosion Prediction Project model (WEPP) (DEIS p.82-85), it appears that erosion potential is increased in most of the Alternatives (Proposed, C, D, and E in the West Creek Watershed (DEIS Figure 2, p.85) compared to No Action. Considering the importance of these watersheds to the Denver municipal water supply, and that Trail Creek is on the monitoring and evaluation list for sediment (DEIS p. 79), we recommend that restoration and improvement projects above the Project-specific mitigation measures be included to mitigate for potential impacts.

- Because Trout Creek and its tributaries has been placed on the Clean Water Act 303(d) list as impaired for sediment, no activity should occur in the watershed that hampers recovery efforts or further impairs listed stream segments. Again, we recommend that restoration and improvement projects above the Project-specific mitigation measures be included to mitigate for projected impacts. In all alternatives, we appreciate judicious use of treatment and mitigation measures to minimize erosion impacts.

- EPA generally favors alternatives that minimize road miles required by the Project. EPA also generally supports the obliteration and restoration of user-created or non-system roads as a mitigation measure for potential project-related sedimentation. The DEIS states that roads within 300 feet of streams have the potential to deliver sediment, depending on surfacing (p. 80). Unclassified roads, which have a higher potential to deliver sediment than USFS constructed and maintained roads, are already common and increasing in the analysis area (DEIS p.80; 144). Trout Creek has 137.7 miles of roads within 300 feet of streams and West Creek has 69.5 miles (DEIS p. 81).

Based on the procedures EPA uses to evaluate the potential effects of proposed actions and the adequacy of the information in the DEIS, the Preferred Alternative (Proposed Action) identified by the DEIS for the *Trout-West Hazardous Fuels Reduction Project* will be listed in the Federal Register in the category EC-2. The EC-2 rating means that, although fuels treatment in designated, high-value management areas may be beneficial to the protection of structures, EPA has identified landscape-scale thinning as having potential impacts to aquatic resources and contiguous terrestrial habitat in the Project area that should be avoided in order to provide adequate protection to the environment. The FEIS should include additional analysis regarding adaptive management, monitoring schedules, the inclusion of landscape level risk information, erosion potential and road development in order to make relevant decisions about these resources. We have enclosed a summary of EPA's rating criteria and definitions.

Thank you again for your willingness to consider our comments at this stage of the process, and we hope they will be useful to you. If you have any questions or would like to discuss our comments, please feel free to contact Amy Bergstedt or Philip Strobel of my staff at (303) 312-6647 and (303) 312-6704, respectively.

Sincerely,

Cynthia Cody
Director, NEPA Program
Office of Ecosystems Protection
and Remediation

cc. Bob Post, Pike's Peak Ranger District Office
Pike & San Isabel Forest Supervisor

Environmental Protection Agency Rating System for Draft Environmental Impact Statements
Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections

The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonaby available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

STATE OF COLORADO
Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

Russell George, Director

Southeast Region:
2126 N Weber Street
Colorado Springs, Colorado 80907

Telephone: (719)227-5200

For Wildlife-
For People

February 24, 2003

Rochelle Desser or Jackie Ringulet
Trout-West DEIS
P.O. Box 440
Grants Pass, OR. 97528

Re: Trout-West Hazardous Fuels Reduction Project Draft Environmental Impacts Statement.

Dear Ms. Desser or Ms. Ringulet,

The Division has reviewed the draft Environmental Impact Statement dated December 2002 regarding the proposed Trout-West Hazardous Fuels Reduction Project. We offer the following general comments and suggestions for your consideration. However, we propose that site specific comments on a timber sale scale (when available) would be more beneficial. We would like to offer comments in regards to road placement and restoration, erosion, riparian buffers, snag management, and weed control.

The Division believes that the temporary road placement criteria are adequate. However, the Division prefers that road construction be kept to a minimum to reduce impacts to both terrestrial and aquatic wildlife. We strongly encourage the goal of reducing road densities within the project areas. We suggest that temporary roads be rehabilitated with native species immediately after timber harvest operations are complete. If rehabilitation is not practical immediately after harvesting, we recommend temporary erosion control measure be taken until rehabilitation can be adequately accomplished. We recommend monitoring of reclaimed roads to ensure proper vegetation establishment.

The Division is concerned about the riparian buffer of 100 feet. We feel in some instances this distance would be adequate. However, in regards to beaver complexes or wider fluvial environments, 100 feet may not cover the entire riparian habitat. We recommend that the riparian buffer of 100 feet be delineated from the edge of the riparian ecosystem. These concerns stem from the fact that within the South Platte watershed several large wildfires combined with management prescription will accelerate soil erosion in upper tributaries and the main stem of the South Platte (a drainage classified as a gold medal fishery). All attempts to reduce soil erosion in regards to the proposed action should be taken.

The Division agrees with the recommendations for snag density and the dead and down component within project areas. We also support leaving slash available for at least a year, this practice will provide additional benefit to resident wildlife, reduce the risk of soil erosion and provide nutrients and cover for vegetation establishment. Based on the amount of disturbance and the high probability of weed infestation, the Division supports a monitoring and control program for noxious weeds within the project area.

The Division appreciates having this opportunity for input. Please feel free to contact me should you have questions or concerns.

Sincerely,

Mark Konishi

Mark Konishi
Southeast Regional Manager

Cc: Bruce Goforth, CDOW
Doug Krieger, CDOW
Bob Davies, CDOW
Dave Clippinger, CDOW

MARCH 3, 2003

TO: Rochelle Desser
Team Leader
Trout- West Project EIS Team

From: Jim Hubbard
State Forester
Colorado State Forest Service

SUBJECT: CSFS COMMENTS ON THE TROUT-WEST PROJECT DEIS
U. S. FOREST SERVICE

We appreciate the opportunity to review and to provide comment on the Draft Environmental Impact Statement (DEIS) for the Trout West Project on the Pike National Forest issued by the Forest Service. CSFS provided comments early in the development phase of the NEPA process. These comments highlighted that the planning effort was not utilizing the available science of Dr. Merrill Kaufman of the Rocky Mountain Research Station This research is relevant to the Upper South Platte Drainage where the proposed Trout-West Project is located. Even though an Alternative E was added which somewhat reflected our comments, we feel the development of the Preferred Alternative (PA) for the DEIS does not address the research on historical forest conditions. It is also not consistent with the EA developed for the adjacent Upper South Platte Watershed Protection and Restoration Project for fuels hazard reduction based on available science.

The following comments are more specific to our review of the DEIS document and reflect some major concerns:

Page 5- The project is to be implemented over a ten year period. This is not a very aggressive time frame to treat this area. This would mean only about 2000 acres per year. A five to seven year time frame would be a much more aggressive time frame.

Page 5& 8 - The Proposed Action and Purpose and Need for Action do not discuss restored forest conditions and the 10year Comprehensive Strategy Implementation Plan and Goal 3- Fire adapted ecosystems are restored and maintained providing sustainable environmental, social, and economic benefits.

Page 12 – Project Goals address sustainable, diverse forest conditions, more like historical conditions. Alternative E modified would be better than the Preferred Action and comes closer to project goals of restored forest condition.
There needs to be an additional high priority Goal of reducing the catastrophic fire threat to human life and property.

Page 16 – Vegetative Conditions discusses historic forest conditions but the differences between alternatives, forest openings within the historic forests are not a prime factor in evaluation; only the thinnings seem to be the historical factor for evaluation. This limits the evaluation for restoring the forest to historical condition to only how the preferred alternative was developed.

Page 19 –CHAPTER 2- We question the use of helicopter logging in all alternatives. First, the use of this system for yarding is not common in Colorado and especially with the economics of removing small trees found in the Upper South Platte Drainage. Add the prescription to thin from below just makes the situation worse. This doesn't make sense! In developing the Landscape Plan for this project other options need to be investigated such as use of fuel breaks and/or leaving these steep areas out of the project rather than providing for a consistent thinning across the landscape. The use of funds for helicopter treatments could be better used to treat other high priority areas in the WUI with much higher payoff in fuel hazard reduction. The planning team needs re-look at the landscape plan for these watersheds regarding treatment of steep slopes, use of fuel breaks, and economics.

Page 32 & 33 Alternatives B and D do not meet the goal regarding safety or the purpose of the project, see comment on Goals . The project should be designed to reduce the potential of catastrophic fire and threat to human life and property. By staying back from the private lands ½ to 1 mile isn't practical and doesn't meet intent of the National Fire Plan. It may meet what the land owner wants, until a fire comes! These alternatives should be dropped. The Forest Service is proposing treatment of their lands to protect private property and lives and should treat the public lands to the private land owners' boundaries. Land owners also need to recognize the need for, and implement defensible space on their properties.

Page 34 Alternative E- We recommend using a combination of the preferred alternative and alternative E be developed that bring in the use of openings but not necessarily to the criteria of a set 30% of pine stands - 15% of fir. The total landscape needs to be relooked at using fuel breaks which could account for some openings as well as removal of the high cost helicopter yarding . This Alternative could restore the forest much closer to its historical condition, be a least cost option, and develop much more sustainable conditions; see comments above page 19.

Page 48 & 49- Alternatives Compared-based on prior comments about goals and alternative additional comparisons could be made such as fire threat to human life and property, and restoring to more historic sustainable conditions.

1. Crown Fire Hazard-There needs to be discussion on Alternative E and the benefits of creating openings across landscape for ecological sustainability as well as reduced hazard of crown fires.

5. Fish and Wildlife Statement that all alternatives other than Alternative E would have no adverse direct effects on T&E species. Alternative E may require additional consultation with USFWS under Endangered Species Act, this is not explained. Why? Forest plan amendments for thermal cover didn't seem to be problem in the Upper South Platte project. It seems here that consultation on T&E is viewed as a problem.

8. Visual Quality Objectives of retention and partial retention seem to be questionable when considering the forest conditions of the project and past catastrophic fires in the drainage as well as the historic forest condition. These objectives should be readdressed

at the landscape scale for the project and designed into the project selected alternative. The forest plan may not have analyzed Visual Quality of retention and partial retention and the affects fire has on these factors, especially in light of recent fire history. At the landscape level forest treatments can be designed to more closely meet historical forest conditions including openings, other resource needs, and visual quality.

Page 55-the comparison of alternatives and Alternative E, we question the greater impacts on wildlife statements. If Alternative E was designed from a landscape level to meet goals as well as come close to Forest Plan direction it would more closely approximates historical forest condition. The alternative described in the DEIS appears to be one that was intended to not be implemented from the very beginning.

Page 58-Affected Environment-This is a good analysis, however no where does it discuss or model the affect of creating openings, such as Alternative E and the research work of Dr. Kaufman at Cheesman Reservoir. Openings were apart of the historical landscape as represented by this research. In addition, no mention is made of the use of fuel breaks and their potential benefits in the landscape design.

Pages 68 to 75 Vegetative Conditions- the case for an alternative that more closely approaches restoring the forest to a more historical condition is made in Tables 10, 11 and in the description of affected environment page 68. An alternative which more closely approaches the historical forest conditions would seem to be more sustainable over a long period of time and could be designed somewhat differently than Alternative E and/or the preferred alternative.

Page 74-Alternative E-The percentage of opening could be tailored to conditions on the ground and may not approach the 30% of the landscape or the average of 20 acres. The point is historical conditions reflected a forest that was more open and had natural openings. Based on other resource considerations, an alternative should be designed that better fits current conditions and moves the forest toward the historical condition. The statement that one-third of the created openings would be “actively” regenerated is questioned as the intent is to create more permanent openings, as was represented in the historical landscape.

Page 75 Proposed Action and Action Alternatives- Alternative E the openings created to be closer to historic condition should be managed to maintain those opening and not regenerated or for growing old growth.

Page 92 & 94 Fisheries Environmental Consequences Alternative E. This alternative did not include 100’ riparian buffer. Why? The buffer should have been designed as apart of this alternative so it would be more comparable to all the alternatives. This could be viewed as if you don’t want this alternative and that the EIS team chose not to add the environmental or riparian factors as a part of the prescription! This would cause many readers to look unfavorably at Alternative E, which moves the forest to a more historical condition. Redesign Alternative E to be more consistent with Forest Plan direction?

Page 120-Again the prescription for Alternative E could maintain areas for thermal cover. However, a Forest Plan Amendment may also be needed, as was the case for the Upper South Platte Project. Consistency with Forest Plan-Alternative E could be better designed to incorporate mitigation features, but retain the historical forest condition objectives.

Page 140-Affected Environment-the statement "the project is intended to return the forest to an open condition more like historical conditions" based on that statement it would seem the planning team would have considered more involvement by Dr. Kaufman and better use his research on historical forest condition at Cheesman Reservoir in the design of the Preferred Alternative.

Page 157 Social Issues-The input from the Chamber of Commerce and others must have come prior, to the Haymen Fire and evacuation of thousands of people who directly experienced catastrophic fire. The project objective is to substantially reduce the potential of fire.

Page 55 Economic Analysis-(See comments on Chapter 2 page 19 of DEIS) The cost of yarding of very small low value material, while thinning from below, by helicopter is just not reasonable nor is it happening in treating fuels hazards in Colorado. If money was no obstacle and the Forest Service had unlimited budgets then possibly. But that isn't the situation. Budgets are limited so economics play an important role in project design and implementation. There are so many other high priority areas along Colorado's front range where funding is needed. The project design along with the economics need to be totally revisited. As an example:

Further analysis of Table 55 Costs. If one only looks at total acres treated from Chapter 2 and total costs for each alternative, the PA cost per acre is $844, of Alt. C is $872 and Alt E is $980. These costs per acre reflect the concern for the way that alternatives have been designed and the costs involved. If the timber value from Figure 7 is used to off set costs as through a Stewardship Pilot(normally timber revenues would go to the US Treasury) then cost per acre are $645 for PA, $672 for Alt. C and $686 for Alt. E. The economic analysis does not indicate project planning, layout, designation or administration costs which are assumed to be in addition to the cost elements and the above costs per acre. In any case the project costs in this analysis for the treatment of this large landscape are clearly a problem.

Page 162 Citizen Involvement- The statement that private land owners would have "particular influence" on specific treatment methods on National Forest lands within 600 feet of their residences. The land owners should have input into treatment on National Forest lands but "particular influence" seems too strong. The recent experience on past fires indicate that fuels treatment is needed to protect property and lives (both landowners and firefighters.) Private land owners need to be encouraged to treat their lands as well. To meet the objectives of the National Fire Plan and this project the federal manager needs to make the final call on what treatments are necessary around private lands, after getting input of the land owner.

SUMMARY

The above detailed comments point to major issues concerning the alternatives developed in the DEIS in meeting the objectives and/or goals for the project. Reducing hazardous fuels and moving the forest to more sustainability, historic condition requires the use of existing research. Forest Plan (FP) standards and guidelines are important and need to be tested to see if they all fit the current situation and goals of the project. In some areas FP amendments maybe warranted. The economics of how a project is designed are an important consideration in being able to implement and attain the desired future conditions. Our comments, we hope, will help develop a project which is better suited to meeting the goals, objectives of the project and when implemented result in a more sustainable forest condition. Thank you for the opportunity to provide comments on the DEIS for the Trout –West Hazardous Fuels Reduction Project.

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Denver Federal Center, Building 56, Room 1003
P.O. Box 25007 (D-108)
Denver, Colorado 80225-0007

February 20. 2003

ER 03/0053

Rochelle Desser, Team Leader
Pike and San Isabel National Forests
Trout-West EIS
P.O. Box 440
Grants Pass, Oregon 97528

Dear Ms. Desser:

The Department of the Interior has reviewed the Draft Environmental Impact Statement for the Trout-West Hazardous Fuels Reduction Project, Pike and San Isabel National Forests, Teller, El Paso, and Douglas Counties, Colorado and has no comments.

Sincerely,

Robert F. Stewart
Regional Environmental Officer

U.S. DEPARTMENT OF
HOUSING AND URBAN DEVELOPMENT
ROCKY MOUNTAIN, DENVER
633 17TH ST.
DENVER, COLORADO 80202-3690

January 14, 2003

Trout-West DEIS
C/O Rochelle Desser/Jackie Ringulet
P.O. Box 440
Grants Pass, OR 97528

Dear Ms. .Desser and Ringulet:

The Department of Housing and Urban Development (HUD) has reviewed the Draft Environmental Impact Statement (DEIS) for the Trout-West Hazardous Fuels Reduction Project with consideration of the areas of responsibility assigned to HUD.

This review considered the impact of the proposed project on housing and community development in Teller, Douglas, and El Paso Counties, Colorado, that are part of our office's area of responsibility. We find your transmittal adequate for our purposes since the proposed undertaking will reduce the wildfire danger to the communities of Woodland Park, Divide, Colorado Springs, Florissant, Trumbull, and Palmer Lake.

If I may be of further assistance to you, please contact meat (303) 672-5285, extension 1305.

Sincerely,

Howard S. Kutzer

Howard S. Kutzer
Regional Environmental Officer
Office of the Regional Director